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53, BERNERS STREET, OXFORD STREET;
August, 1889.

228191

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1882 BARKER, FREDERICK CHARLES, M.D., Surgeon-Major, Bombay Medical Service, India [care of ARTHUR BARKER, Esq., 87, Harley Street].

1875 BARLOW, THOMAS, M.D. (*Hon. Secretary*), Physician to University College Hospital, to the Hospital for Sick Children, Great Ormond Street, and to the London Fever Hospital; 10, Wimpole Street, W.C. (C. 1880–2, S. 1888–9.) *Trans.* 10, *C.S.* 5.

1888 BARRS, A. G., M.D., 22, Park Place, Leeds.

1888 BARTON, EDWIN A., University College Hospital.

O.M. BARWELL, RICHARD, late Senior Surgeon to, and Lecturer on Surgery at, the Charing Cross Hospital; 55, Wimpole Street, W. (C. 1872–5, V.P. 1877–9.) *Trans.* 18, *C.S.* 1.

O.M. BASTIAN, HENRY CHARLTON, M.D., F.R.S., Physician to University College Hospital, and to the National Hospital for the Paralysed and Epileptic, and Professor of Clinical Medicine at University College; 20, Queen Anne Street, W. (C. 1876–8.) *Trans.* 4.

ELECTED

1882 BATEMAN, ALFRED G., M.B., 64, Longridge Road, South Kensington, S.W.

1888 BATTERHAM, JOHN WILLIAMS, M.B., B.S., Bank House, Grand Parade, St. Leonard's.

1886 BATTLE, WILLIAM HENRY, Assistant Surgeon, East London Hospital for Children; 6, Harley Street, W. *Trans.* 1, *C.S.* 1.

1868 BAÜMLER, CHRISTIAN G. H., M.D., Professor of Materia Medica in the University of Erlangen. *Trans.* 4.

1875 BECK, MARCUS, M.S., Professor of Surgery, University College, and Surgeon to University College Hospital; 30, Wimpole Street, W. (C. 1880–1.) *Trans.* 1.

1880 *BEEVOR, CHARLES EDWARD, M.D., Assistant Physician to the National Hospital for Paralysed and Epileptic; 33, Harley Street, W. *C.S.* 1.

1875 BELLAMY, EDWARD, Surgeon to Charing Cross Hospital; Lecturer on Artistic Anatomy in the Science and Art Department, South Kensington; 17, Wimpole Street, W. (C. 1879–80.) *Trans.* 4.

1884 BENHAM, F. LUCAS, M.D., 93, Elizabeth Street, Eaton Square, S.W.

1883 BENHAM, ROBERT FITZROY, Abercorn House, Baron's Court, S.W.

1885 BENNETT, A. HUGHES, M.D., Assistant Physician to the Westminster Hospital; 76, Wimpole Street, W. *Trans.* 2.

1878 BENNETT, STORER, Dental Surgeon to, and Lecturer on Dental Surgery at, the Middlesex Hospital; Dental Surgeon to the Dental Hospital of London; 17, George Street, W.

1874 BENNETT, WILLIAM HENRY, Surgeon to St. George's Hospital; 1, Chesterfield Street, W. (C. 1889.) *Trans.* 4.

1882 BERRY, FREDERICK HAYCRAFT, M.B., Watford, Herts.

1885 BERRY, JAMES, 60, Welbeck Street, W.

1882 BINDLEY, PHILIP HENRY, M.B., Fairholme, Hastings.

1879 BINDON, WM. JOHN VERBKER, M.D., 18, St. Ann's Street, Manchester.

1883 BISS, CECIL YATES, M.D., Assistant Physician to, and Lecturer on Materia Medica at, the Middlesex Hospital, and Assistant Physician to the Hospital for Consumption, Brompton; 135, Harley Street, W. *Trans.* 1.

1881 BLACK, JAMES, Assistant Surgeon to the North-West London Hospital; Lecturer on Anatomy, Westminster Hospital, 16, Wimpole Street, W.

1888 BOSTOCK, ROBERT ASHTON, 73, Onslow Gardens, Brompton.

1883 BOWLBY, ANTHONY A., Surgical Registrar, St. Bartholomew's Hospital; 75, Warrington Crescent, Maida Vale, W. *Trans.* 2, *C.S.* 2.

1883 †BOWLES, ROBERT LEAMON, M.D., 8, West Terrace, Folkestone.

1889 BOYD, STANLEY, M.B., Gower Street, W.C.

1868 BRACE, WILLIAM H., M.D., 7, Queen's Gate Terrace, S.W. (C. 1876–7.)

1883 BRADSHAW, JAMES DIXON, M.B., 30, George Street, W.

1878 BRIDGES, ROBERT, M.B., M.A., The Manor House, Yattendon, Berkshire. *Trans.* 1.

1868 BRIGHT, GEORGE CHARLES, M.B., 29, Lüttichen Strasse, Dresden.

1868 BRIGHT, JOHN MEABURN, M.D., Forest Hill, S.E.

ELECTED

O.M. BRISTOWE, JOHN S., M.D., F.R.S., Physician to, and Lecturer on Medicine at, St. Thomas's Hospital; Medical Officer of Health for Camberwell; 13, Old Burlington Street, W. (C. 1869–70, V.P. 1879–80.) *Trans.* 4.

O.M. BROADBENT, WILLIAM HENRY, M.D., Physician to, and Lecturer on Medicine at, St. Mary's Hospital; Consulting Physician to the London Fever Hospital; 34, Seymour Street, W. (C. 1871–3, V.P. 1881–3, P. 1887–8.) *Trans.* 17.

1887 BROCK, J. H. E., M.B., B.S., 115, Adelaide Road, N.W.

O.M. BRODHURST, BERNARD EDWARD, Surgeon to the Royal Orthopædic Hospital; 20, Grosvenor Street, W. *Trans.* 2.

1876 BROWNE, GEORGE BUCKSTON, 80, Wimpole Street, W. *Trans.* 2.

1887 BROWNE, OSWALD AUCHINLECK, M.B., Casualty Physician to St. Bartholomew's Hospital, and Physician to the Royal Hospital for Diseases of the Chest; 6A, Bedford Square, W.

1883 BRUCE, JOHN MITCHELL, M.D., Physician to, and Lecturer on Materia Medica at, the Charing Cross Hospital; Assistant Physician to the Hospital for Consumption, Brompton; 70, Harley Street, W.

O.M. BRYANT, THOMAS, Consulting Surgeon to Guy's Hospital; 65, Grosvenor Street, W. (C. 1872, V.P. 1876–7, P. 1885–6.) *Trans.* 8.

O.M. BUCHANAN, GEORGE, M.D., F.R.S., Medical Officer of the Local Government Board; 24, Nottingham Place, W. (C. 1877.)

1884 BUCK, WILLIAM ELGAR, M.D., 5, Welford Road, Leicester.

1886 BULL, WILLIAM C., M.B., 35, Clarges Street, Piccadilly, W.

1881 BURNET, ROBERT WILLIAM, M.D., 6, Upper Wimpole Street, W. *Trans.* 1.

1879 BURTON, WILLIAM EDWARD, 24, Wimpole Street, W.

1887 BUTLER-SMYTHE, ALBERT CHARLES, Senior Surgeon to the Grosvenor Hospital for Women and Children; 35, Brook Street, W. *Trans.* 1.

1881 BUTLIN, HENRY TRENTHAM (C.), Assistant Surgeon to, and Demonstrator of Practical Surgery and Diseases of the Larynx at, St. Bartholomew's Hospital; 82, Harley Street, W. (C. 1887–9.) *Trans.* 7.

1871 BUTT, WILLIAM F., 48, Park Street, Park Lane, W.

1884 BUXTON, DUDLEY WILMOT, M.D., B.S., Administrator and Teacher of the Use of Anæsthetics in University College Hospital; Anæsthetist to the Hospital for Women, Soho Square, and to the London Dental Hospital; 82, Mortimer Street, W.

O.M. BUZZARD, THOMAS, M.D., Physician to the National Hospital for the Paralysed and Epileptic; 74, Grosvenor Street, W. (S. 1870–2, C. 1873–6, V.P. 1880–1.) *Trans.* 14, *C.S.* 1.

1886 CAHILL, JOHN, 12, Seville Street, Lowndes Square, S.W.

1888 CARPENTER, GEORGE ALFRED, M.B., St. Erinius' Mansions, Westminster, S.W.

1883 CARTER, FREDERICK HEALES, Eaton Villa, Bellevue Road, Upper Tooting, S.W.

ELECTED

1869 CARTER, ROBERT BRUDENELL, Ophthalmic Surgeon to, and Lecturer on Ophthalmology at, St. George's Hospital; Surgeon to the Royal South London Ophthalmic Hospital; 27, Queen Anne Street, W. (C. 1873–6, V.P. 1879–81.) *Trans.* 8.

1889 CARTER, WILLIAM ALEXANDER, M.B., M.Ch., Chelsea Barracks, S.W.

1885 CATON, RICHARD, M.D., 18, Croxteth Road, and 86, Rodney Street, Liverpool. *Trans.* 2.

1868 CAVAFY, JOHN, M.D., Physician to St. George's Hospital; 2, Upper Berkeley Street, W. (C. 1881–3.) *Trans.* 4.

O.M. CAYLEY, WILLIAM, M.D., Physician to, and Lecturer on the Principles and Practice of Medicine at, the Middlesex Hospital; Physician to the London Fever Hospital, and to the North-Eastern Hospital for Children; 27, Wimpole Street, W. (C. 1874–5, S. 1876–8, C. 1879–80, V.P. 1885–6.) *Trans.* 7, *C.S.* 1.

1884 CHAPMAN, PAUL M., M.D., Physician to the Hereford General Infirmary; 1, St. John Street, Hereford.

1885 CHEYNE, W. WATSON, M.B., C.M., Assistant Surgeon and Demonstrator of Surgery to King's College Hospital; 59, Welbeck Street, W.

1873 CHISHOLM, EDWIN, M.D., Abergeldie, Ashfield, near Sydney, New South Wales.

1868 CHOLMELEY, WILLIAM, M.D., Physician to the Great Northern Hospital; 63, Grosvenor Street, W. (C. 1871–3.) *Trans.* 2.

O.M. CHURCH, WILLIAM SELBY, M.D., Physician to, and Lecturer on Clinical Medicine at, St. Bartholomew's Hospital; 130, Harley Street, W. (C. 1874–6.)

1873 CHURTON, THOMAS, M.D., Physician to the Leeds Infirmary, and Lecturer on Medicine in the Yorkshire College; 35, Park Square, Leeds. (C. 1889.) *Trans.* 2.

1882 CLAPHAM, EDWARD, M.D., 29, Lingfield Road, Wimbledon.

O.M. CLAPTON, EDWARD, M.D., 10A, St. Thomas's Street, Southwark, S.E. (C. 1872–4.) *Trans.* 1.

O.M. CLARK, Sir ANDREW, Bart., M.D., LL.D., F.R.S., Physician to, and Emeritus Professor of Clinical Medicine at, the London Hospital; 16, Cavendish Square, W. (C. 1876–8, V.P. 1880–2, P. 1883–4.) *Trans.* 2.

1874 CLARK, ANDREW, Surgeon to, and Lecturer on Practical Surgery at, the Middlesex Hospital; 71, Harley Street, W.

1887 CLARK, FRANCIS WILLIAM, Darenth Imbecile Schools, nr. Dartford, Kent.

1885 †CLARKE, J. MICHELL, M.B., Assistant Physician to the Bristol General Hospital; 2, York Buildings, Clifton, Bristol.

1885 CLARKE, WILLIAM BRUCE, M.B., Assistant Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital; 46, Harley Street, W.

1877 †CLAY, ROBERT HOGARTH, M.D., 4, Windsor Villas, Plymouth.

1887 CLEMOW, ARTHUR HENRY WEISS, M.D., C.M., 2, Talgarth Road, West Kensington, W.

ELECTED

1877 *CLUTTON, HENRY HUGH, M.A., Assistant Surgeon to St. Thomas's Hospital; 2, Portland Place, W. (C. 1885–7.) *Trans.* 8, *C.S.* 2.

1882 COLLIER, HERBERT, M.D., Marine Villa, Gorleston, Great Yarmouth, Norfolk.

1878 COLLINS, W. MAUNSELL, M.D., M.C., 10, Cadogan Place, S.W.

1882 COLQUHOUN, DANIEL, M.D., Dunedin, New Zealand.

1872 COOKE, THOMAS, Assistant Surgeon to the Westminster Hospital; 40, Brunswick Square, W.C.

1868 COOPER, FRANK W., Leytonstone, Essex.

1887 COTES, CHARLES E. H., M.B., 42, Davies Street, Berkeley Square, W.

1880 COTTLE, WYNDHAM, M.D., Senior Assistant Surgeon to the Hospital for Diseases of the Skin, Blackfriars; 3, Savile Row, W.

O.M. COUPER, JOHN, Surgeon to the London Hospital and to the Royal London Ophthalmic Hospital; 80, Grosvenor Street, W. (C. 1874.)

1875 COUPLAND, SIDNEY, M.D. (C.), Physician to, and Lecturer on Practical Medicine at, the Middlesex Hospital; 16, Queen Anne Street, W. (S. 1882–4, C. 1885–7.) *Trans.* 4, *C.S.* 2.

1886 COUSINS, JOHN WARD, M.D., Riversdale, Kent Road, Southsea. *Trans.* 1.

1882 COXWELL, C. F., M.B. [abroad]. *Trans.* 2.

1879 CRIPPS, WILLIAM HARRISON (C.), Assistant Surgeon to St. Bartholomew's Hospital; 2, Stratford Place, W. (C. 1868–8.) *Trans.* 3.

1872 CRITCHETT, ANDERSON, Ophthalmic Surgeon to St. Mary's Hospital and to the Royal Free Hospital; 21, Harley Street, W.

1877 CROCKER, HENRY RADCLIFFE, M.D., Physician to the Skin Department, University College Hospital, and to the East London Hospital for Children; 121, Harley Street, W. (C. 1884–5.) *Trans.* 14.

O.M. CROFT, JOHN, Surgeon to St. Thomas's Hospital; 48, Brook Street, W. (C. 1870–2, V.P. 1882–4.) *Trans.* 12.

1872 DALBY, Sir WILLIAM BARTLETT, M.B., Aural Surgeon to St. George's Hospital; 18, Savile Row, W. (C. 1879–81.) *Trans.* 4.

1882 DALLAWAY, J. W. DENNIS, 5, Duchess Street, W.

1886 DAVIES, ARTHUR T., M.B., 23, Finsbury Square, E.C. *C.S.* 4.

1879 DAVIES-COLLEY, J. NEVILLE C., M.B., M.C., Surgeon to Guy's Hospital; 36, Harley Street, W. (C. 1885–6.) *Trans.* 6.

1879 †DAVY, HENRY, M.D., 29, Southernhay, Exeter.

1868 DAY, WILLIAM HENRY, M.D., Physician to the Samaritan Free Hospital for Women and Children; 10, Manchester Square, W. *Trans.* 5.

1879 †DENNIS, FREDERIC S., M.D., 21, East 21st Street, New York, U.S.

1875 DENT, CLINTON T., Assistant Surgeon to, and Lecturer on Practical Surgery at, St. George's Hospital; 61, Brook Street, W. (C. 1884–6.) *Trans.* 2.

O.M. DICKINSON, WILLIAM HOWSHIP, M.D. (V.P.), Physician to, and Lecturer on Medicine at, St. George's Hospital; Consulting Physician to the Hospital for Sick Children; Honorary Fellow of Caius College, Cambridge; 9, Chesterfield Street, W. (C. 1874–5, V.P. 1888–9.) *Trans.* 2.

ELECTED

1871 DIVER, EBENEZER, M.D., Kenley, Caterham Valley, Surrey.

O.M. DOWN, JOHN LANGDON H., M.D., Physician to, and Lecturer on Clinical Medicine at, the London Hospital; 81, Harley Street, W. (C. 1870–2.) *Trans.* 1.

1874 DOWSE, THOMAS STRETCH, M.D., 14, Welbeck Street, W. *Trans.* 5.

1868 DRAGE, CHARLES, M.D., Hatfield, Herts.

1879 DREWITT, F. G. DAWTREY, M.D. (C.), Physician to the West London Hospital, and to the Victoria Hospital for Children; 52, Brook Street, W. (C. 1886–8.) *Trans.* 2.

O.M. DUCKWORTH, Sir DYCE, M.D. Physician to, and Lecturer on Clinical Medicine at, St. Bartholomew's Hospital; 11, Grafton Street, W. (C. 1875–7, V.P. 1887–8.) *Trans.* 16, *C.S.* 5.

O.M. DUFFIN, ALFRED B., M.D., Physician to King's College Hospital, and Professor of Pathological Anatomy in King's College, London; 18, Devonshire Street, W. (C. 1872–4.) *Trans.* 6.

1884 DUKE, EDGAR, 30, Pevensey Road, St. Leonard's-on-Sea.

1869 DUKE, OLLIVER THOMAS, M.B., Surgeon, Bengal Army, India.

1889 DUNCAN, JOHN, M.D., General-Chief of the Sanitary and Medical Police, St. Petersburg.

O.M. DURHAM, ARTHUR EDWARD, Surgeon to, and Lecturer on Surgery at, Guy's Hospital; 82, Brook Street, W. (C. 1867–9, V.P. 1884–5.) *Trans.* 5.

O.M. EDIS, ARTHUR W., M.D., 22, Wimpole Street, W. (C. 1884–6.) *Trans.* 1.

1884 EDMUNDS, WALTER, M.C., 75, Lambeth Palace Road, S.E.

1882 EMOND, EMILE, M.D., Mont Dore, Auvergne, and 113, Boulevard Beaumarchais, Paris.

O.M. ERICHSEN, JOHN E., LL.D., F.R.S., Surgeon Extraordinary to H.M. the Queen; Emeritus Professor of Surgery at University College, and Consulting Surgeon to University College Hospital; 6, Cavendish Place, W. (V.P. 1869–71.)

1868 EVANS, JULIAN, M.B., Physician to the Victoria Hospital for Children 123, Finborough Road, Redclyffe Square, S.W.

1888 *EVE, FREDERIC S., Assistant Surgeon to the London Hospital; 125, Harley Street, Cavendish Square, W.

1877 EWART, WILLIAM, M.D., Physician to St. George's Hospital; 33, Curzon Street, W. (C. 1884–6.)

1868 †FAIRBANK, FREDERICK ROYSTON, M.D., 46, Hall Gate, Doncaster. *Trans.* 1.

1889 FARDON, EDWARD ASHBY, Middlesex Hospital.

1885 FENN, EDWARD LIVEING, M.D., 1, Portland Terrace, Richmond Green Surrey.

1887 FENWICK, E. HURRY, 5, Old Burlington Street, W. *Trans.* 1.

1872 FENWICK, J. C. J., M.D., 25, North Road, Durham.

1878 FIELD, GEORGE P., Aural Surgeon to St. Mary's Hospital; 34, Wimpole Street, W.

1857. FERRIAR, ARGYLL WHITE, M.D., Physician to, and Lecturer on Forensic Medicine at, the Middlesex Hospital, and Physician to the Royal Hospital for Diseases of the Chest; 9, Lower Berkeley Street, W. (C. 1865–7.) *Trans.* 5.

1861. FITZ-PATRICK, THOMAS, M.D., 30, Sussex Gardens, Hyde Park, W.

1857. •FLEMMING, HENRY EE, M.D., Parkhurst, Isle of Wight.

1855. FOWLER, JAMES KINGSTON, M.D. (C.), Assistant Physician to, and Lecturer on, Pathological Anatomy at, the Middlesex Hospital, and Assistant Physician to the Hospital for Consumption, Brompton; 3, Campden Street, W. (C. 1867–9.) *Trans.* 4. *C.S.* 5.

1860. FOX, T. HENDERSON, M.D., 23, Finsbury Square, E.C.

1857. FOX, THOMAS COLCOTT, M.B. (C.), Physician to the Skin Department, Westminster Hospital, and to the Paddington Green Hospital, and Assistant Physician to the Victoria Hospital for Children; 14, Harley Street, W. (C. 1866–9.) *Trans.* 5, *C.S.* 1.

1867. FREEMAN, HERBERT WILLIAM, 24, Circus, Bath.

1866. GANT, FREDERICK JAMES, Senior Surgeon to the Royal Free Hospital; 16, Connaught Square, W. (C. 1877–9.) *Trans.* 3.

1867. GARROD, ARCHIBALD EDWARD, M.A., M.D., Casualty Physician to St. Bartholomew's Hospital and Physician to the Marylebone Dispensary; 9, Cavendish Street, W.

1879 GASKELL, HERBERT WILLIAM, 24, Circus, Bath.

1865 GIBBONS, ROBERT ALEXANDER, M.D., Physician to the Grosvenor Hospital for Women and Children; 29, Cadogan Place, S.W. *Trans.* 1.

1868 GLOVER, JAMES GREY, M.D., Hon. Surgeon to the Holloway and North Islington Dispensary; 35, Highbury Place, N. (C. 1878–80.) *Trans.* 2.

1882 GODDARD, EUGENE, M.D., 166, Highbury New Park, N.

1875 GODLEE, RICKMAN JOHN, M.S. (C.), Surgeon to University College Hospital; Teacher of Operative Surgery, University College, London; Surgeon to the Hospital for Consumption, Brompton; 81, Wimpole Street, W. (C. 1882–3, 1887–9, S. 1884–6.) *Trans.* 12, *C.S.* 4.

1882 GOLDIE, ROBERT WILLIAM, Medical Superintendent, Poplar and Stepney Sick Asylum; Devons Road, Bromley.

1878 GOLDING-BIRD, C. H., M.B. (C.), Assistant Surgeon to, and Lecturer on Physiology at, Guy's Hospital; 13, St. Thomas's Street, S.E. (C. 1887–9.) *Trans.* 10.

1873 GOODHART, JAMES FREDERIC, M.D., Physician to, and Curator of the Museum at, Guy's Hospital; 35, Weymouth Street, . . . 1880–2.) *Trans.* 11. *C.S.* 2.

1869 GOODRICH, HERBERT FREDK . . . to the Bath Royal United Hos . . .

1882 GOODSALL, D. H., 17, Da . . .

ELECTED

1877 GOULD, A. PEARCE, M.S., Assistant Surgeon to the Middlesex Hospital; 10, Queen Anne Street, W. (C. 1885–7.) *Trans.* 9, *C.S.* 2.

1875 GOWERS, WILLIAM RICHARD, M.D., F.R.S., 60, Queen Anne Street, W. (C. 1881–2.) *Trans.* 4.

1868 GREEN, T. HENRY, M.D., Physician to the Charing Cross Hospital, and to the Hospital for Consumption, Brompton; 74, Wimpole Street, W. (C. 1877–9.) *Trans.* 2, *C.S.* 1.

1875 †GREENFIELD, WILLIAM SMITH, M.D., Professor of General Pathology in the University of Edinburgh; 7, Heriot Row, Edinburgh. (C. 1881.) *Trans.* 3.

1883 GROSS, CHARLES, M.D., M.S., Medical Superintendent, St. Gabriel's Infirmary, East Dulwich Grove, S.E.

1868 †GUENEAU DE MUSSY, HENRI, M.D., 15, Rue du Cirque, Paris.

O.M. GULL, Sir WILLIAM WITHEY, Bart., M.D., D.C.L., F.R.S., Physician in Ordinary to the Queen, and Physician in Ordinary to H.R.H. the Prince of Wales; Consulting Physician, Guy's Hospital; 70, Brook Street, W. (V.P. 1868–70, P. 1871–2.) *Trans.* 6.

1887 HABERSHON, SAMUEL HERBERT, M.D., Casualty Physician to St. Bartholomew's Hospital; 2, Upper Wimpole Street, W.

1882 HADDEN, WALTER BAUGH, M.D. (C.), Assistant Physician to St. Thomas's Hospital, and to the Hospital for Sick Children; 21, Welbeck Street, W. (C. 1886–8.) *Trans.* 8, *C.S.* 1.

1875 HALE, C. D. B., 8, Sussex Gardens, W.

1878 HALL, F. DE HAVILLAND, M.D., Assistant Physician to the Westminster Hospital; 47, Wimpole Street, W. (C. 1885–87.) *Trans.* 7, *C.S.* 2.

1885 HALLIBURTON, WILLIAM DOBINSON, M.D., Assistant Professor of Physiology, University College, London; 25, Maitland Park Villas, Haverstock Hill, N.W.

1889 HALSTEAD, GEORGE EZRA, M.D., B.S., Ramsgate.

1888 HANDFIELD-JONES, MONTAGU, M.D., 24, Montagu Square, W.

1886 †HANDFORD, HENRY, M.D., Physician to the Nottingham General Hospital; 14, Regent Street, Nottingham. *Trans.* 3.

1886 HARDIE, JAMES, M.D., 15, St. John Street, Manchester.

O.M. HARLEY, JOHN, M.D., F.L.S., Physician to, and Lecturer on General Anatomy and Physiology at, St. Thomas's Hospital; 8, Stratford Place, W. (C. 1875.) *Trans.* 1.

1872 HARRIS, HENRY, M.D., Trengweath, Redruth, Cornwall.

1889 HARRIS, HERBERT ELWIN, M.B., St. George-in-the-East Infirmary.

1881 HARRISON, CHARLES EDWARD, M.D., Grenadier Guards Hospital, Rochester Row, S.W.

1869 HAWARD, J. WARRINGTON (V.P.), Surgeon to St. George's Hospital; 16, Savile Row, W. (C. 1870–[illegible]) *Trans.* 12.

ELECTED

1876 FINLAY, DAVID WHITE, M.D., Physician to, and Lecturer on Forensic Medicine at, the Middlesex Hospital, and Physician to the Royal Hospital for Diseases of the Chest; 9, Lower Berkeley Street, W. (C. 1885–7.) *Trans.* 5.

1885 FITZ-PATRICK, THOMAS, M.D., 30, Sussex Gardens, Hyde Park, W.

1878 *FONMARTIN, HENRY DE, M.D., Parkhurst, Isle of Wight.

1881 FOWLER, JAMES KINGSTON, M.D. (C.), Assistant Physician to, and Lecturer on Pathological Anatomy at, the Middlesex Hospital, and Assistant Physician to the Hospital for Consumption, Brompton; 35, Clarges Street, W. (C. 1887–9.) *Trans.* 4. *C.S.* 5.

1886 FOX, R. HINGSTON, M.D., 23, Finsbury Square, E.C.

1878 FOX, THOMAS COLCOTT, M.B. (C.), Physician to the Skin Department, Westminster Hospital, and to the Paddington Green Hospital, and Assistant Physician to the Victoria Hospital for Children; 14, Harley Street, W. (C. 1888–9.) *Trans.* 5, *C.S.* 1.

1887 FREEMAN, HENRY WILLIAM, 24, Circus, Bath.

1888 GAGE-BROWN, CHARLES HERBERT, M.D., 74, Cadogan Place, S.W.

1868 GANT, FREDERICK JAMES, Senior Surgeon to the Royal Free Hospital; 16, Connaught Square, W. (C. 1877–9.) *Trans.* 3.

1887 GARROD, ARCHIBALD EDWARD, M.A., M.D., Casualty Physician to St. Bartholomew's Hospital and Physician to the Marylebone Dispensary; 9, Chandos Street, W.

1879 GARSTANG, THOMAS WALTER HARROPP, The Heath, Knutsford, Cheshire.

1885 GIBBONS, ROBERT ALEXANDER, M.D., Physician to the Grosvenor Hospital for Women and Children; 29, Cadogan Place, S.W. *Trans.* 1.

1868 GLOVER, JAMES GREY, M.D., Hon. Surgeon to the Holloway and North Islington Dispensary; 25, Highbury Place, N. (C. 1878–80.) *Trans.* 2.

1882 GODDARD, EUGENE, M.D., 106, Highbury New Park, N.

1875 GODLEE, RICKMAN JOHN, M.S. (C.), Surgeon to University College Hospital; Teacher of Operative Surgery, University College, London; Surgeon to the Hospital for Consumption, Brompton; 81, Wimpole Street, W. (C. 1882–3, 1887–9, S. 1884–6.) *Trans.* 12, *C.S.* 4.

1882 GOLDIE, ROBERT WILLIAM, Medical Superintendent, Poplar and Stepney Sick Asylum; Devons Road, Bromley.

1878 GOLDING-BIRD, C. H., M.B. (C.), Assistant Surgeon to, and Lecturer on Physiology at, Guy's Hospital; 13, St. Thomas's Street, S.E. (C. 1887–9.) *Trans.* 10.

1875 GOODHART, JAMES FREDERIC, M.D., Physician to, and Curator of the Museum at, Guy's Hospital; 25, Weymouth Street, W. (C. 1880–2.) *Trans.* 11, *C.S.* 2.

1869 GOODRIDGE, HENRY FREDERICK AUGUSTUS, M.D., Physician to the Bath Royal United Hospital; 10, Brock Street, Bath.

1882 GOODSALL, D. H., 17, Devonshire Place, W.

ELECTED

1877 GOULD, A. PEARCE, M.S., Assistant Surgeon to the Middlesex Hospital; 10, Queen Anne Street, W. (C. 1885–7.) *Trans.* 9, *C.S.* 2.

1875 GOWERS, WILLIAM RICHARD, M.D., F.R.S., 50, Queen Anne Street, W. (C. 1881–2.) *Trans.* 4.

1868 GREEN, T. HENRY, M.D., Physician to the Charing Cross Hospital, and to the Hospital for Consumption, Brompton; 74, Wimpole Street, W. (C. 1877–9.) *Trans.* 2, *C.S.* 1.

1875 †GREENFIELD, WILLIAM SMITH, M.D., Professor of General Pathology in the University of Edinburgh; 7, Heriot Row, Edinburgh. (C. 1881.) *Trans.* 3.

1883 GROSS, CHARLES, M.D., M.S., Medical Superintendent, St. Saviour's Infirmary, East Dulwich Grove, S.E.

1868 †GUERNEAU DE MUSSY, HENRI, M.D., 15, Rue du Cirque, Paris.

O.M. GULL, Sir WILLIAM WITHEY, Bart., M.D., D.C.L., F.R.S., Physician in Ordinary to the Queen, and Physician in Ordinary to H.R.H. the Prince of Wales; Consulting Physician, Guy's Hospital; 74, Brook Street, W. (V.P. 1868–70, P. 1871–2.) *Trans.* 6.

1887 HABERSHON, SAMUEL HERBERT, M.D., Casualty Physician to St. Bartholomew's Hospital; 2, Upper Wimpole Street, W.

1882 HADDEN, WALTER BAUGH, M.D. (C.), Assistant Physician to St. Thomas's Hospital, and to the Hospital for Sick Children; 21, Welbeck Street, W. (C. 1886–8.) *Trans.* 8, *C.S.* 1.

1875 HALE, C. D. B., 8, Sussex Gardens, W.

1878 HALL, F. DE HAVILLAND, M.D., Assistant Physician to the Westminster Hospital; 47, Wimpole Street, W. (C. 1885–87.) *Trans.* 7, *C.S.* 2.

1885 HALLIBURTON, WILLIAM DOBINSON, M.D., Assistant Professor of Physiology, University College, London; 25, Maitland Park Villas, Haverstock Hill, N.W.

1889 HALSTEAD, GEORGE EZRA, M.D., B.S., Ramsgate.

1888 HANDFIELD-JONES, MONTAGU, M.D., 24, Montagu Square, W.

1886 †HANDFORD, HENRY, M.D., Physician to the Nottingham General Hospital; 14, Regent Street, Nottingham. *Trans.* 3.

1886 HARDIE, JAMES, M.D., 15, St. John Street, Manchester.

O.M. HARLEY, JOHN, M.D., F.L.S., Physician to, and Lecturer on General Anatomy and Physiology at, St. Thomas's Hospital; 9, Stratford Place, W. (C. 1875.) *Trans.* 1.

1872 HARRIS, HENRY, M.D., Trengweath, Redruth, Cornwall.

1889 HARRIS, HERBERT ELWIN, M.B., St. George-in-the-East Infirmary.

1881 HARRISON, CHARLES EDWARD, M.B., Grenadier Guards Hospital, Rochester Row, S.W.

1869 HAWARD, J. WARRINGTON (V.P.), Surgeon to St. George's Hospital; 16, Savile Row, W. (C. 1876–8, 1884–6, S. 1881–3, V.P. 1888.) *Trans.* 12.

ELECTED

1886 HAWKINS, FRANCIS HENRY, M.B., Physician to St. George's and St. James's Dispensary, and to the North London Hospital for Consumption; 59, Wimpole Street, W.

O.M. HEATH, CHRISTOPHER (*President*), Surgeon to University College Hospital, and Holme Professor of Clinical Surgery in University College; 36, Cavendish Square, W. (C. 1867–71, V.P. 1876–8, T. 1879–88, P. 1889.) *Trans.* 18.

1879 HENDERSON, GEORGE COURTENAY, M.D., Kingston, Jamaica, West Indies.

1882 HERON, GEORGE ALLAN, M.D., Assistant Physician to the City of London Hospital for Diseases of the Chest, Victoria Park; 57, Harley Street, W.

1884 HERRINGHAM, WILMOT PARKER, M.D., 13, Upper Wimpole Street, W. *Trans.* 1, *C.S.* 1.

1888 HETHERINGTON, GEORGE HAYNES, 10, Museum Street, Ipswich.

O.M. HEWETT, Sir PRESCOTT GARDNER, Bart., F.R.S., Surgeon-Extraordinary to H.M. the Queen; Consulting Surgeon to St. George's Hospital; Chestnut Lodge, Horsham, Sussex. (V.P. 1869–71, P. 1873–4.) *Trans.* 3.

O.M. HEWITT, GRAILY, M.D., Emeritus Professor of Midwifery in University College, and Consulting Obstetric Physician to University College Hospital; 36, Berkeley Square, W. (C. 1878–9.) *Trans.* 1.

O.M. HICKS, J. BRAXTON, M.D., F.R.S., F.L.S., Consulting Physician Accoucheur to Guy's Hospital, and Physician Accoucheur to St. Mary's Hospital; 24, George Street, W. (C. 1875–7.)

1868 HILL, BERKELEY, M.B., Professor of Clinical Surgery in University College, London; Surgeon to University College Hospital, and to the Lock Hospital; 66, Wimpole Street, W. (C. 1870–1.) *Trans.* 7, *C.S.* 1.

1874 HOLDERNESS, WILLIAM BROWN, 15, Park Street, Windsor.

1868 †HOLMAN, CONSTANTINE, M.D., Reigate, Surrey.

1868 HOLMAN, WILLIAM HENRY, M.B., 68, Adelaide Road, South Hampstead, N.W.

O.M. HOLMES, TIMOTHY, late Senior Surgeon to St. George's Hospital; 18, Great Cumberland Place, W. (C. 1867–9, V.P. 1873–5.) *Trans.* 16.

O.M. HOLT, BARNARD WIGHT, Consulting Surgeon to, and Lecturer on Clinical Surgery at, the Westminster Hospital; Medical Officer of Health for Westminster; 14, Savile Row, W. *Trans.* 1.

O.M. HOLTHOUSE, CARSTEN. (C. 1870–2.) *Trans.* 8.

1878 HOOD, DONALD WILLIAM CHARLES, M.D., Senior Physician, North-West London Hospital; Physician to the West London Hospital; 43, Green Street, W. *Trans.* 1.

1873 HOPE, WILLIAM, M.D., Senior Physician to Queen Charlotte's Lying-in Hospital; 56, Curzon Street, W.

ELECTED

1883 HOPKINS, JOHN, Medical Superintendent, Central London Sick Asylum; Cleveland Street, W. *C.S.* 1.

1884 HORSLEY, VICTOR, M.B., F.R.S., Assistant Surgeon, University College Hospital; Surgeon to the National Hospital for the Paralysed and Epileptic; Professor of Pathological Anatomy, University College, London; Superintendent of the Brown Institution, Wandsworth Road; 80, Park Street, W. *Trans.* 2, *C.S.* 1.

1880 *HOVELL, T. MARK, Junior Aural Surgeon to the London Hospital; Surgeon to the Hospital for Diseases of the Throat; 3, Mansfield Street, W.

1876 HOWSE, HENRY GREENWAY, M.S., Surgeon to, and Lecturer on Anatomy at, Guy's Hospital; Surgeon to the Evelina Hospital for Sick Children; 59, Brook Street, W. (C. 1881–3.) *Trans.* 3.

O.M. HULKE, JOHN WHITAKER, F.R.S., Surgeon to the Middlesex Hospital, and to the Royal London Ophthalmic Hospital; 10, Old Burlington Street, W. (C. 1867–9, V.P. 1878–80.) *Trans.* 13.

O.M. HUMPHRY, GEORGE MURRAY, M.D., F.R.S., Professor of Surgery in the University of Cambridge, and Surgeon to Addenbrooke's Hospital, Cambridge. (V.P. 1867–70.)

O.M. HUTCHINSON, JONATHAN, F.R.S., Consulting Surgeon to the London Hospital; Surgeon to the Hospital for Diseases of the Skin, Blackfriars, and to the Royal London Ophthalmic Hospital; 15, Cavendish Square, W. (C. 1867–8, V.P. 1875–6.) *Trans.* 14, *C.S.* 1.

1879 INKSON, JAMES, M.D., Brigade Surgeon, Army.

1883 JACKSON, GEORGE HENRY, Lansdowne House, Tottenham.

O.M. JACKSON, J. HUGHLINGS, M.D., F.R.S. (V.P.), Physician to the London Hospital, and to the National Hospital for the Paralysed and Epileptic; 3, Manchester Square, W. (C. 1872–3, V.P. 1887.) *Trans.* 2.

1877 JACOBSON, WALTER HAMILTON ACLAND, M.B., M.S., Assistant Surgeon to Guy's Hospital; 66, Great Cumberland Place, W. *Trans.* 1.

1888 JAMIESON, ARTHUR, M.D., C.M., 26, Lowndes Street, S.W.

1888 JAMES, J. F., M.B., 30, Harley Street, W.

1875 JESSETT, FREDERICK BOWREMAN, Surgeon to the Royal General Dispensary; 16, Upper Wimpole Street, W.

O.M. JOHNSON, GEORGE, M.D., F.R.S., Consulting Physician to King's College Hospital; 11, Savile Row, W. (V.P. 1874–6.) *Trans.* 5.

1889 JOHNSON, RAYMOND, M.B., B.S., 131, Gower Street, W.C.

1878 JOHNSTON, WILLIAM, M.D., M.C., 16, Lonsdale Terrace, Upper Kent Street, Leicester.

O.M. JONES, SYDNEY, M.B., Surgeon to, and Lecturer on Surgery at, St. Thomas's Hospital; 16, George Street, Hanover Square, W. (C. 1867–8, V.P. 1886–7.) *Trans.* 2.

1872 JONES, THOMAS RIDGE, M.D., Physician to the Victoria Hospital for Children; 4, Chesham Place, S.W.

1876 JORDAN, FURNEAUX, Consulting Surgeon to the Queen's Hospital, Birmingham; Selly Hill, Birmingham. *Trans.* 1.

ELECTED

1886 JULER, HENRY EDWARD, Assistant Surgeon to the Royal Westminster Ophthalmic Hospital; Junior Ophthalmic Surgeon to St. Mary's Hospital; 77, Wimpole Street, W.

1878 KEETLEY, CHARLES ROBERT BELL, Senior Surgeon to the West London Hospital; Surgeon to the Surgical Aid Society; 56, Grosvenor Street, W. *Trans.* 2.

O.M. KELLY, CHARLES, M.D., Medical Officer of Health for the West Sussex District; Worthing, Sussex.

1882 KESTEVEN, WILLIAM HENRY, 16, Parkhurst Road, N. *Trans.* 1.

1883 KIDD, PERCY, M.D., Assistant Physician to the Hospital for Consumption, Brompton; 60, Brook Street, W. *Trans.* 3, *C.S.* 1.

1887 †KNAGGS, R. LAWFORD, B.C., Huddersfield. *Trans.* 1.

1878 LACEY, THOMAS WARNER, 196, Burrage Road, Plumstead, S.E.

1883 LANE, WILLIAM ARBUTHNOT, M.B., M.S., Assistant Surgeon to Guy's Hospital, and to the Hospital for Sick Children; 14, St. Thomas's Street, S.E. *Trans.* 3, *C.S.* 2.

O.M. LANGTON, JOHN, Surgeon to, and Lecturer on Anatomy at, St. Bartholomew's Hospital, and Surgeon to the City of London Truss Society; 62, Harley Street, W. (C. 1878–80.) *Trans.* 2.

1886 LANKESTER, HERBERT, M.D., 1, Elm Park Gardens, South Kensington, S.W.

1885 LARDER, HERBERT, Medical Superintendent, Whitechapel Infirmary, E. *C.S.* 1.

O.M. LAWSON, GEORGE, Surgeon Oculist to H.M. the Queen; Surgeon to the Middlesex Hospital, and to the Royal London Ophthalmic Hospital; 12, Harley Street, W. (S. 1871–3, C. 1874–6, V.P. 1881–3.) *Trans.* 16.

1877 †LEDIARD, HENRY AMBROSE, M.D., Surgeon to the Cumberland Infirmary; 41, Lowther Street, Carlisle. (C. 1889.) *Trans.* 5.

O.M. LEE, HENRY, Consulting Surgeon to St. George's Hospital; 9, Savile Row, W. (V.P. 1870–2.) *Trans.* 7.

1877 LEES, DAVID B., M.D., Physician to, and Lecturer on Materia Medica at, St. Mary's Hospital, and Assistant Physician to the Hospital for Sick Children; 22, Weymouth Street, W. (C. 1885.) *Trans.* 3.

1879 LICHTENBERG, GEORGE, M.D., 47, Finsbury Square, E.C.

1868 LITTLE, LOUIS STROMEYER, China.

1875 LIVEING, EDWARD, M.D., 52, Queen Anne Street, W.

1872 LIVEING, ROBERT, M.D., Consulting Physician to the Skin Department at the Middlesex Hospital; 11, Manchester Square, W. (C. 1883–4.) *Trans.* 2.

1885 LOCKWOOD, CHARLES BARRETT, Surgeon to the Great Northern Central Hospital, and Demonstrator of Anatomy at St. Bartholomew's Hospital; 19, Upper Berkeley Street, W.

1876 LONGHURST, ARTHUR EDWIN TEMPLE, M.D., 22, Wilton Street, S.W. (C. 1889.) *Trans.* 1.

ELECTED

1881 LUBBOCK, MONTAGU, M.D., Assistant Physician to Charing Cross Hospital; 19, Grosvenor Street, W.

1876 LUCAS, R. CLEMENT, M.B., B.S., Surgeon to, and Lecturer on Anatomy at, Guy's Hospital; Surgeon to the Evelina Hospital for Sick Children; 18, Finsbury Square, E.C. (C. 1883–5.) *Trans.* 9.

1879 LUNN, JOHN REUBEN, Resident Medical Officer, New Marylebone Infirmary, Rackham Street; Ladbroke Grove Road, W. *Trans.* 5, *C.S.* 7.

1889 MACBRIDE, P., M.D., 16, Chester Street, Edinburgh.

1871 MAC CORMAC, Sir WILLIAM (V.P.), Surgeon to, and Lecturer on Surgery at, St. Thomas's Hospital; 13, Harley Street, W. (C. 1877–9, V.P. 1888–9.) *Trans.* 5.

1883 †MACFARLANE, ALEXANDER WILLIAM, M.D., 6, Manchester Square.

1884 MCGILL, ARTHUR FERGUSSON, Professor of Anatomy, Yorkshire College; Surgeon to the Leeds General Infirmary; 23, Park Square, Leeds. *Trans.* 1.

1881 MCHARDY, MALCOLM MACDONALD, Ophthalmic Surgeon to King's College Hospital, and Professor of Ophthalmic Surgery in King's College, London; 5, Savile Row, W. *Trans.* 1.

1882 MACKENZIE, FREDERIC MORELL, 29, Hans Place, S.W.

O.M. MACKENZIE, Sir MORELL, M.D., Physician to the Hospital for Diseases of the Throat; 19, Harley Street, W. *Trans.* 4.

1879 MACKENZIE, STEPHEN, M.D., Physician to, and Lecturer on Medicine at, the London Hospital; 18, Cavendish Square, W. (C. 1884, 1888–9, S. 1885–7.) *Trans.* 8, *C.S.* 10.

1884 MACKERN, JOHN, M.B., Assistant Physician, Chelsea Hospital for Women; 30, Cambridge Street, Hyde Park, W.

1879 MACLAGAN, THOMAS JOHN, M.D., 9, Cadogan Place, S.W. (C. 1889.) *Trans.* 1.

1885 MACLAREN, RODERICK, M.D., Portland Square, Carlisle. *Trans.* 1.

1875 MACNAMARA, CHARLES, Surgeon to the Westminster Hospital, and to the Royal Westminster Ophthalmic Hospital; 13, Grosvenor Street, W. (C. 1879–81.) *C.S.* 1.

1879 MAGILL, JAMES, M.D., M.C., Surgeon, Coldstream Guards; Coldstream Guards Hospital, Vincent Square, Westminster, S.W.

1885 MAGUIRE, ROBERT, M.D., Lecturer on Pathology at, and Assistant Physician to, St. Mary's Hospital; 4, Seymour Street, W. *Trans.* 1.

1881 MAKINS, GEORGE HENRY, Assistant Surgeon to St. Thomas's Hospital, and to the Evelina Hospital for Children; 2, Queen Street, W. *Trans.* 1. *C.S.* 5.

1887 MALCOLM, JOHN D., M.B., C.M., 24, Bryanston Street, W.

1888 †MARRIOTT, HYDE, M.B., Dial House, Stockport.

1868 MARSH, F. HOWARD (V.P.), Assistant Surgeon and Lecturer on Anatomy to St. Bartholomew's Hospital; 30, Bruton Street, W. (C. 1876–7 1881–3, S. 1878–80, V.P. 1887–8.) *Trans.* 10, *C.S.* 3.

1875 MARSHALL, F. J., Resident Medical Officer, St. George's Hospital, W.

ELECTED

1866 MARTIN, HENRY ARTHUR, M.D., 1, Philbeach Gardens, Earl's Court, S.W.

1867 MARTIN, SIDNEY, M.D., B.S., 10, Mansfield Street, W.

1886 MASON, DAVID JAMES, M.D., C.M., Maidenhead.

1884 MAUDSLEY, HENRY CARR, M.D., 11, Spring Street, Melbourne, Victoria.

1868 †MAY, EDWARD HOOPER, M.D., High Cross, Tottenham, Middlesex, N.

1888 MAY, W. P., M.B., Goldburn, Eltham Road, Blackheath, S.E.

1888 MENZIES, J. HERBERT, 1, Gwendwr Road, West Kensington, W.

1878 MEREDITH, WILLIAM APPLETON, C.M. (C.), Surgeon to the Samaritan Free Hospital for Women and Children; 6, Queen Anne Street, W. (C. 1887–9.) *Trans.* 2.

1873 MICKLE, WILLIAM JULIUS, M.D., Lecturer on Mental Diseases, University College, London; Physician Superintendent, Grove Hall Asylum, Bow, E.

1877 MILNER, EDWARD, Surgeon to the Lock Hospital; 32, New Cavendish Street, W.

1882 MONEY, ANGEL, M.D. (C.), Assistant Physician to University College Hospital, to the City of London Hospital for Diseases of the Chest, Victoria Park, and to the Hospital for Sick Children, Great Ormond Street; 24, Harley Street, W. (C. 1888–9.) *Trans.* 3.

1874 MORGAN, JOHN HAMMOND, Surgeon to the Charing Cross Hospital, and to the Hospital for Sick Children; 68, Grosvenor Street, W. (C. 1883–5.) *Trans.* 2, *C.S.* 3.

1877 MORRIS, HENRY, M.B., Surgeon to, and Lecturer on Surgery at, the Middlesex Hospital; 2, Mansfield Street, W. (C. 1884–6.) *Trans.* 9.

1877 MORRIS, MALCOLM ALEX., Surgeon to the Skin Department of, and Lecturer on Dermatology at, St. Mary's Hospital; 8, Harley Street, W. *Trans.* 1.

1888 MORISON, ALEXANDER, M.D., 115, Green Lanes, Stoke Newington, N. *Trans.* 1.

1885 MOTT, FREDERICK WALKER, M.D., C.M., Lecturer on Physiology, Charing Cross Hospital; Meadowlead, Gayton Road, Harrow.

1879 MOULLIN, CHARLES W. MANSELL (C.), Assistant Surgeon to the London Hospital; 69, Wimpole Street, W. (C. 1888–9.) *Trans.* 2.

1875 MURPHY, SHIRLEY F. (C.), Lecturer on Hygiene and Public Health, St. Mary's Hospital; 41, Queen Anne Street, W. (C. 1888–9.) *C.S.* 1.

1885 MURRAY, ALEXANDER DALTON, M.B., Ricksmansworth, Herts.

1883 MURRAY, HUBERT MONTAGUE, M.D., Assistant Physician to, and Demonstrator of Pathology at, Charing Cross Hospital; 27, Savile Row, W. *Trans.* 1.

1868 MYERS, ARTHUR BOWEN RICHARDS, Brigade Surgeon, Brigade of Guards; 43, Gloucester Street, Warwick Square, S.W. (C. 1877–9.) *Trans.* 1.

1882 MYERS, A. T., M.D., Medical Registrar, St. George's Hospital; 9, Lower Berkeley Street, W. *Trans.* 1.

1872 MYRTLE, ANDREW S., M.D., 8, Park Parade, Harrogate.

ELECTED

1874 NANKIVELL, ARTHUR WOLCOT, Resident Surgeon, St. Bartholomew's Hospital, Chatham.

1875 NETTLESHIP, EDWARD, Ophthalmic Surgeon to, and Lecturer on Ophthalmology at, St. Thomas's Hospital; 5, Wimpole Street, W. (C. 1881–2.) *Trans.* 2.

1889 NEWMAN, D., M.D., 18, Woodside Place, Glasgow.

O.M. NORTON, ARTHUR TREHERN, Surgeon to, and Lecturer on Surgery at, St. Mary's Hospital; 101, Harley Street, W. (C. 1874–6.) *Trans.* 6.

O.M. NUNN, THOMAS WILLIAM, Consulting Surgeon to the Middlesex Hospital; 8, Stratford Place, W. (C. 1873–4.) *Trans.* 7.

1880 O'CONNOR, BERNARD, M.D., Physician to the North London Hospital for Consumption; Greenhill Park, Harlesden, N.W. *Trans.* 1.

O.M. OGLE, JOHN WILLIAM, M.D., Consulting Physician to St. George's Hospital; 30, Cavendish Square, W. (C. 1867–8, V.P. 1884–5.) *Trans.* 6.

1868 †OGLE, WILLIAM, M.D., Physician to the Derbyshire General Infirmary; 98, Friar Gate, Derby.

1883 OLIVER, GEORGE, M.D., West End Park, Harrogate. *Trans.* 1.

1887 †OLIVER, THOMAS, M.D., 12, Eldon Square, Newcastle-on-Tyne.

1887 OPENSHAW, THOMAS HORROCKS, M.B., 21, Gower Street, W.C.

1868 OPPERT, FRANZ, M.D., 128, Leipzigerstrasse, Germany. *Trans.* 1.

1877 ORD, WILLIAM MILLER, M.D. (*Treasurer*), Physician to, and Lecturer on Medicine at, St. Thomas's Hospital; 37, Upper Brook Street, W. (C. 1882–4, T. 1889.) *Trans.* 6.

1887 ORMEROD, JOSEPH ARDERNE, M.D., Assistant Physician to the National Hospital for the Paralysed and Epileptic, Queen Square, and to the City of London Hospital for Diseases of the Chest, Victoria Park; 25, Upper Wimpole Street, W.

1884 ORMSBY, LAMBERT HEPENSTAL, M.D., Lecturer on Clinical and Operative Surgery at, and Surgeon to, the Meath Hospital and County Dublin Infirmary; Surgeon to the Children's Hospital, Dublin; 4, Merrion Square West, Dublin.

1883 ORTON, GEORGE HUNT, M.B., 1, Campden Hill Road, Kensington, W.

1877 OWEN, ISAMBARD, M.D. (C.), Assistant Physician to, and Lecturer on Forensic Medicine at, St. George's Hospital; 5, Hertford Street, W. (C. 1888–9.) *Trans.* 1.

1888 OXLEY, ALFRED RICE, M.D., Streatham Common.

1888 PAGE, FREDERICK, M.D., 1, Saville Place, Newcastle-on-Tyne.

1875 PAGE, HERBERT W., M.C., M.B., Surgeon to, and Joint Lecturer on Surgery at, St. Mary's Hospital; 146, Harley Street, W. (C. 1882–4.) *Trans.* 3.

1884 PAGET, STEPHEN, 57, Wimpole Street, W. *Trans.* 2, *C.S.* 1.

1873 PARKER, ROBERT WILLIAM (*Hon. Secretary*), Surgeon to the East London Hospital for Children; 8, Old Cavendish Street, W. (C. 1882–4, S. 1887–9.) *Trans.* 10, *C.S.* 7.

ELECTED

1881 PARKER, BUSHTON, M.B., Professor of Surgery in University College, Liverpool, and Assistant Surgeon, Liverpool Royal Infirmary; 59, Rodney Street, Liverpool. *Trans.* 1, *CS.*. 1.

1888 PARSONS, JOHN INGLIS, M.D., 9, Collingham Place, S.W.

1881 PASTEUR, WILLIAM, M.D., Medical Registrar to the Middlesex Hospital; Physician to the North-Eastern Hospital for Children; 19, Queen Street, May Fair, W. *Trans.* 1. *C.S.* 2.

1883 PAUL, JOHN LISTON, M.D., 43, Queensborough Terrace, W.

O.M. PAVY, FREDERICK WILLIAM, M.D., F.R.S., Physician to Guy's Hospital; 35, Grosvenor Street, W. (C. 1869–71, V.P. 1882–4.) *Trans.* 3.

1886 PAYNE, JOSEPH FRANK, M.D., Physician to, and Lecturer on Pathological Anatomy at, St. Thomas's Hospital; 78, Wimpole Street, W. *Trans.* 1.

1889 PEAKE, W. PEMBERTON, St. Marylebone Infirmary.

1887 PEARCE, WALTER, M.D., 63, Montagu Square, W.

1887 PEARSE, THOMAS FREDERICK, M.D.

1879 PEEL, ROBERT, 130, Collins Street East, Melbourne, Victoria.

1886 †PENNY, WILLIAM JOHN, 42, Caledonia Place, Clifton.

1887 PENROSE, FRANCIS GEORGE, M.D., 24, Clarges Street, Piccadilly, W.

1882 PEPPER, AUGUSTUS JOSEPH, M.S., M.B., Surgeon to St. Mary's Hospital; 13, Wimpole Street, W. *Trans.* 1.

1874 PHILLIPS, CHARLES DOUGLAS F., M.D., 10, Henrietta Street, W.

1884 PHILLIPS, SIDNEY PHILIP, M.D., Physician to St. Mary's Hospital; Assistant Physician to the London Fever Hospital; 21, Upper Berkeley Street, W. *Trans.* 2.

O.M. PICK, THOMAS PICKERING, Surgeon to, and Lecturer on Surgery at, St. George's Hospital; 18, Portman Street, W. (S. 1874–7, C. 1878–80, V.P. 1885–6.) *Trans.* 4.

1888 PITCAIRN, JOHN JAMES, Derwent Lodge, Uckfield, Sussex.

1885 PITT, GEORGE NEWTON, M.D., Assistant Physician to, and Pathologist at, Guy's Hospital; 10, St. Thomas's Street, S.E.

1883 PITTS, BERNARD, M.A., M.C., Assistant Surgeon, St. Thomas's Hospital; 31, Harley Street, W. *Trans.* 4.

1871 †PLAYNE, ALFRED, M.B., Maidenhead.

1884 POLAND, JOHN, Demonstrator of Anatomy, Guy's Hospital; 16, St. Thomas's Street, S.E.

1884 POLLARD, BILTON, Assistant Surgeon and Surgical Registrar to University College Hospital; Surgeon to the North-Eastern Hospital for Children; 24, Harley Street, W. *Trans.* 1.

1868 POLLOCK, JAMES EDWARD, M.D., Consulting Physician to the Hospital for Consumption and Diseases of the Chest; 52, Upper Brook Street, W. (C. 1878–80.)

1871 POORE, GEORGE VIVIAN, M.D., Professor of Medical Jurisprudence in University College, and Physician to University College Hospital; 30, Wimpole Street, W. (C. 1879–81.) *Trans.* 3.

ELECTED

1873 PORT, HEINRICH, M.D., Physician to the German Hospital; 48, Finsbury Square, E.C.

1881 POWELL, H. A., M.A., 1, The Avenue, Beckenham, Kent.

O.M. POWELL, R. DOUGLAS, M.D., Physician-Extraordinary to H.M. the Queen; Physician to, and Lecturer on Practical Medicine at, the Middlesex Hospital; 62, Wimpole Street, W. (C. 1874–6, V.P. 1889.) *Trans.* 4.

1868 PRENTIS, CHARLES, Surgeon-Major, Bengal Medical Service; India.

1884 PRINGLE, JOHN, JAMES, M.B., Assistant Physician to, and Physician in charge Skin Department at, the Middlesex Hospital; and Physician to the Royal Hospital for Diseases of the Chest; 35, Bruton Street, W. *Trans.* 1, *C.S.* 1.

1884 PYE-SMITH, PHILIP HENRY, M.D., F.R.S., Physician to, and Lecturer on Medicine at, Guy's Hospital; Member of the Senate of the University of London; 54, Harley Street, W.

O.M. QUAIN, RICHARD, M.D., LL.D., F.R.S., Physician-Extraordinary to H.M. the Queen; Consulting Physician to the Hospital for Consumption and Diseases of the Chest; Member of the Senate of the University of London; 67, Harley Street, W. (C. 1867–9.)

O.M. RAMSKILL, J. SPENCE, M.D., Consulting Physician to the London Hospital; Senior Physician to the National Hospital for the Paralysed and Epileptic; 5, St. Helen's Place, E.C.

1889 RANKING, JOHN E., M.D., Tunbridge Wells.

1873 RANSFORD, GIFFORD, M.D., 27, Gloucester Place, Hyde Park, W. (C. 1884–5.)

1868 RASCH, ADOLPHUS A., M.D., Physician for Diseases of Women to the German Hospital; 7, South Street, E.C.

1877 RAYNER, HENRY, M.D., Lecturer on Mental Diseases at St. Thomas's Hospital; Middlesex County Lunatic Asylum, Hanwell, W.

1883 READ, THOMAS LAURENCE, 11, Petersham Terrace, Queen's Gate, S.W.

1874 REE, FREDERICK G., Lifford Lodge, Outram Road, Addiscombe, Surrey.

1868 REEVES, HENRY A., Assistant Surgeon to the London Hospital; 7, Grosvenor Street, W. *Trans.* 2.

O.M. REYNOLDS, JOHN RUSSELL, M.D., F.R.S., Consulting Physician to University College Hospital; 38, Grosvenor Street, W. (C. 1867–8.)

1868 RICE, MICHAEL W., M.D. (C. 1876–8.)

1883 RING, EDMUND CUTHBERT, 55, New Bond Street, W.

O.M. RINGER, SYDNEY, M.D., F.R.S., Holme Professor of Clinical Medicine in University College, London, and Physician to University College Hospital; 15, Cavendish Place, W. (C. 1871–2.)

1877 RIVINGTON, WALTER, M.S. (C.), Surgeon to, and Lecturer on Surgery at, the London Hospital; 22, Finsbury Square, E.C. (C. 1886–8.) *Trans.* 3.

1873 †ROBERTS, DAVID LLOYD, M.D., Physician to St. Mary's Hospital, Manchester; 11, St. John Street, Manchester.

1888 ROBERTS, FRANK ERNEST, Tulse Dale Villa, Lower Norwood, S.E.

ELECTED

1883 ROBERTS, FREDERICK THOMAS, M.D., Professor of Materia Medica and Therapeutics in University College, London, and Physician to University College Hospital; Physician to the Hospital for Consumption, Brompton; 102, Harley Street, W.

1885 ROBINSON, ARTHUR HENRY, M.D., Mile End Infirmary, Bancroft Road, E. *C.S.* 3.

1885 ROBSON, A. W. MAYO, Surgeon to the Leeds General Infirmary, Hilary Place, Leeds. *Trans.* 8.

1875 ROGERS, WILLIAM RICHARD, M.D., 56, Berners Street, W.

1889 ROLLESTON, HUMPHRY DAVY, M.B., B.S., St. Bartholomew's Hospital.

1888 ROPER, ARTHUR, Lewisham Hill, Blackheath.

1877 ROTH, BERNARD, 29, Queen Anne Street, W. *Trans.* 1, *C.S.* 4.

O.M. ROUSE, JAMES, Surgeon to St. George's Hospital, and to the Royal Ophthalmic Hospital, Charing Cross; 2, Wilton Street, S.W. (C. 1875–7.) *Trans.* 2.

1874 ROWLAND, EDWARD R.

1887 RUTHERFOORD, H. T., M.B., 46, Queen Anne Street, W.

1885 RYLE, REGINALD JOHN, M.D., Green View, Hadley Green, Barnet.

1882 SAINSBURY, HARRINGTON, M.D., Physician to the Royal Free Hospital, 63, Welbeck Street, W.

1868 SANDERSON, HUGH JAMES, M.D., 26, Upper Berkeley Street, W.

O.M. SANDERSON, JOHN BURDON, M.D., LL.D., F.R.S., Waynflete Professor of Physiology in the University of Oxford; 50, Banbury Road, Oxford. (S. 1867–9, C. 1870, V.P. 1871–3.) *Trans.* 3.

1873 SAVAGE, GEORGE HENRY, M.D., 3, Henrietta Street, W. (C. 1882–3.)

1886 SAVILL, THOMAS DIXON, M.D., Paddington Infirmary, 285, Harrow Road W. *Trans.* 1. *C.S.* 2.

1885 SAWTELL, TOM HENRY, M.B., 14, Stapleton Hall Road, Stroud Green, N. *Trans.* 1.

1886 SCOTT, ALFRED, 15, German Place, Brighton.

1877 SEATON, EDWARD, M.D., 35, George Street, W. *Trans.* 1.

1869 SEDGWICK, LEONARD WILLIAM, M.D., 2, Gloucester Terrace, Hyde Park, W. (C. 1879–81.)

1878 SEMON, FELIX, M.D., Assistant Physician for Diseases of the Throat to St. Thomas's Hospital; 39, Wimpole Street, W. (C. 1885–7.) *Trans.* 7.

1884 SHARKEY, SEYMOUR, J., M.D., Assistant Physician and Lecturer on Pathology to St. Thomas's Hospital; 2, Portland Place, W.

1875 SHERWOOD, ARTHUR PAUL, 8, Seaside Road, Eastbourne.

O.M. SIBLEY, SEPTIMUS WILLIAM, 7, Harley Street, W. (C. 1871–4.)

1886 SILCOCK, ARTHUR QUARRY, M.D., M.S., Surgeon in charge of Out-Patients to St. Mary's Hospital, and Assistant Surgeon to the Royal London Ophthalmic Hospital; 52, Harley Street, W. *Trans.* 1. *C.S.* 1.

1879 SKERRITT, EDWARD MARKHAM, M.D., Physician to the Bristol General Hospital, Lecturer on Medicine at the Bristol Medical School; Coburg Villa, Richmond Hill, Clifton, Bristol. *Trans.* 2.

ELECTED

1872 SLIGHT, GEORGE, M.D., 3, Clifford Street, Bond Street, W.

1882 SMITH, E. NOBLE, Senior Surgeon, and Surgeon to the Orthopædic Department, of the Farringdon Dispensary; 24, Queen Anne Street, W. *Trans.* 1.

1888 SMITH, FREDERICK J., M.B., 7, West Street, Finsbury Circus, E.C.

1868 SMITH, PROTHEROE, M.D., Consulting Physician to the Hospital for Women; 42, Park Street, W.

1884 SMITH, R. PERCY, M.D., Assistant Medical Officer, Bethlem Royal Hospital, St. George's Road, S.E.

O.M. SMITH, THOMAS, Surgeon to, and Lecturer on Clinical Surgery at, St. Bartholomew's Hospital; 5, Stratford Place, W. (C. 1869–71, V.P. 1880–2.) *Trans.* 14.

1875 SMITH, T. GILBART, M.A., M.D., Assistant Physician to the London Hospital; Physician to the Royal Hospital for Diseases of the Chest, City Road; 68, Harley Street, W. (C. 1883–5.)

1873 SMITH, WILLIAM JOHNSON, Surgeon to the Seamen's Hospital, Greenwich, S.E.

1872 SMITH, WILLIAM WILBERFORCE, M.D., 14, Stratford Place, W.

1868 SNOW, WILLIAM V., M.D., Richmond Gardens, Bournemouth.

O.M. SOUTHEY, REGINALD, M.D., Commissioner in Lunacy, 32, Grosvenor Road, Pimlico, W. (C. 1867–70, 1876–8, S. 1873–5, V.P. 1883–4.) *Trans.* 16.

1888 SPENCER, WALTER GEORGE, M.S., M.B., 94, Wimpole Street, W.

1885 SPICER, FREDERICK, M.D., 282, Camden Road, N.W.

1888 SPICER, ROBERT HENRY SCANES, M.D., Physician to the Department for Diseases of the Throat, St. Mary's Hospital; 28, Welbeck Street, W.

1882 SPOONER, FREDERICK HENRY, M.D., Maitland Lodge, Maitland Place, Clapton, E.

1876 SQUIRE, A. BALMANNO, M.B., 24, Weymouth Street, W. *Trans.* 5.

1879 STAPLES, FRANCIS PATRICK, Brigade-Surgeon; 27, College Road, Brighton.

1889 STEWART, EDWARD, M.D., 8, Upper Wimpole Street, W.

1871 STEWART, WILLIAM EDWARD, 16, Harley Street, W.

1874 †STIRLING, EDWARD C., M.D., late Assistant Surgeon to, and Lecturer on Physiology at, St. George's Hospital; Adelaide, South Australia [care of T. GEMMELL, Esq., 11, Essex Street, Strand, W.C.].

1888 STOKER, GEORGE, 14, Hertford Street, W.

1881 STOKES, HENRY FRASER, 2, Highbury Crescent, N.

1878 STOKES, Sir WILLIAM, M.D., Surgeon to the Meath Hospital; 5, Merrion Square North, Dublin. *Trans.* 2.

1884 STONHAM, CHARLES, Assistant Surgeon to the Westminster Hospital, and to the Cancer Hospital, Brompton; 62, Welbeck Street, W. *C.S.* 3.

1878 STRUGNELL, FREDERICK WILLIAM, 45, Highgate Road, Highgate, N. *C.S.* 1.

ELECTED

1878 †STURGE, WILLIAM ALLEN, M.D., 29, Boulevard Dubouchage, Nice, France. *Trans.* 4.

1872 *SUTHERLAND, HENRY, M.D., Lecturer on Insanity, Westminster Hospital; 6, Richmond Terrace, Whitehall, S.W. *Trans.* 1.

O.M. SUTTON, HENRY GAWEN, M.B., Physician to, and Lecturer on Pathology at, the London Hospital; 9, Finsbury Square, E.C. (C. 1878.) *Trans.* 2.

1887 SUTTON, JOHN BLAND, Assistant Surgeon to the Middlesex Hospital; 46, Queen Anne Street, W. *Trans.* 3.

1882 SYMONDS, CHARTERS JAMES, M.S. (C.), Assistant Surgeon to Guy's Hospital; 26, Weymouth Street, W. (C. 1888–9.) *Trans.* 10, *C.S.* 2.

1876 SYMONDS, HORATIO PERCY, Surgeon to the Radcliffe Infirmary, Oxford; 35, Beaumont Street, Oxford.

1885 TAIT, EDWARD SABINE, M.B., 54, Highbury Park, N.

1885 TAIT, HENRY BREWER, 28, Hornsey Rise, N.

1868 TATHAM, JOHN, M.D., Physician to the Hospital for Consumption and Diseases of the Chest; 12, George Street, W.

1886 TAY, WARREN, Surgeon to the London Hospital and to the North-Eastern Hospital for Children, and the Hospital for Skin Diseases, Blackfriars; 4, Finsbury Square, E.C.

1878 TAYLER, FRANCIS THOMAS, M.B., 224, Lewisham High Road, S.E.

1875 TAYLOR, FREDERICK, M.D., Physician to, and Lecturer on Medicine at, Guy's Hospital; Physician to the Evelina Hospital for Sick Children; 11, St. Thomas's Street, S.E. (S. 1879–81, C. 1882–4.) *Trans.* 9, *C.S.* 1.

1889 TAYLOR, HENRY HERBERT, Hospital for Consumption, Brompton.

1882 TAYLOR, SEYMOUR, M.D., Assistant Physician to the West London Hospital; 16, Seymour Street, W. *Trans.* 1.

1885 †TAYLOR, W. C. EVERLEY, 34, Queen Street, Scarborough.

1886 TEALE, THOMAS PRIDGIN, M.B., F.R.S., 38, Cookridge Street, Leeds.

1882 THIN, GEORGE, M.D., 22, Queen Anne Street, W. *Trans.* 1.

1886 THOMPSON, CHARLES HERBERT, M.D., Metropolitan Free Hospital, Kingsland Road, E.

O.M. THOMPSON, EDMUND SYMES, M.D., Physician to the Hospital for Consumption and Diseases of the Chest; Gresham Professor of Medicine; 33, Cavendish Square, W. (C. 1880–2.) *Trans.* 1.

O.M. THOMPSON, Sir HENRY, Knt., Surgeon-Extraordinary to H.M. the King of the Belgians; Emeritus Professor of Clinical Surgery in University College; 35, Wimpole Street, W. (C. 1867–8, V.P. 1886–7.) *Trans.* 3.

1887 THORNTON, JOHN KNOWSLEY, M.B., C.M., Surgeon to the Samaritan Free Hospital for Women and Children, 22, Portman Street, W.

1872 THORNTON, WILLIAM PUGIN, 35, St. George's Road, Canterbury. *Trans.* 5.

1876 THRUPP, JAMES GODFREY, 33, Curzon Street, W.

ELECTED

1885 THURSFIELD, THOMAS WILLIAM, M.D., 26, The Parade, Leamington.

1887 TOTSUKA, KANKAI (Non-resident).

1874 TRAVERS, WILLIAM, M.D., 2, Phillimore Gardens, Kensington, W.

1884 TREVES, FREDERICK, Surgeon to, and Lecturer on Anatomy at, the London Hospital; 6, Wimpole Street, W. *Trans.* 5.

1882 TURNER, FRANCIS CHARLEWOOD, M.D. (C.), Physician to the London Hospital, and to the North-Eastern Hospital for Children; 15, Finsbury Square, E.C. (C. 1887–9.) *Trans.* 1.

1882 TURNER, GEORGE ROBERTSON, Visiting Surgeon, Seamen's Hospital, Greenwich; Assistant Surgeon to, and Joint Lecturer on Practical Surgery at, St. George's Hospital; 49, Green Street, W. *Trans.* 4.

1888 TURNER, PHILIP DYMOCK, M.B., M.D., 8, Gloucester Terrace, Onslow Gardens, S.W.

1877 TWEEDY, JOHN, Professor of Ophthalmic Medicine and Surgery at University College, and Ophthalmic Surgeon to University College Hospital; Surgeon to the Royal London Ophthalmic Hospital; 100, Harley Street, W.

1878 TYSON, WILLIAM JOSEPH, M.D. (C.), 10, Langhorne Gardens, Folkestone. (C. 1886–8.) *Trans.* 5.

1881 UHTHOFF, JOHN CALDWELL, M.D., 46, Western Road, Hove, Brighton.

1868 VENNING, EDGCOMBE, 30, Cadogan Place, S.W. (C. 1876–8.) *Trans.* 2.

1886 WADE, CHARLES H., Scotleigh, Chudleigh, Devon.

1868 WAGSTAFFE, WILLIAM WARWICK, Purleigh, St. John's Hill, Sevenoaks. (C. 1878.)

1886 *WAINEWRIGHT, BENJAMIN, M.B., C.M., 19, Upper Berkeley Street, W. *Trans.* 2, *C.S.* 1.

1885 WAKLEY, THOMAS, Jun., 96, Redcliffe Gardens, S.W.

1885 WALKER, CHARLES ROTHERHAM, M.D., 7, Grove Road, Leytonstone, E.

1875 WALSHAM, WILLIAM J., Assistant Surgeon to, and Demonstrator of Practical and Orthopædic Surgery at, St. Bartholomew's Hospital; Surgeon to the Metropolitan Free Hospital; 27, Weymouth Street, W. (C. 1882–4.) *Trans.* 5, *C.S.* 1.

1888 WALTERS, FREDERICK RUFFNACHT, M.D., 20, Finsbury Circus, E.C.

1888 †WARNER, PERCY, Woodford, Essex.

1876 WATERS, JOHN H., M.D., 101, Jermyn Street, St. James's, S.W.

1868 WATKINS, EDWIN T., M.D., 61, Guildford Street, W.C. (C. 1881–3.)

O.M. WATSON, WILLIAM SPENCER, M.B., Surgeon to the Great Northern Hospital; Surgeon to the Royal South London Ophthalmic Hospital; 7, Henrietta Street, W. (C. 1880–2.) *Trans.* 10.

1879 DE WATTEVILLE, ARMAND, M.A., M.D., B.Sc., Physician in Charge of the Electro-Therapeutical Department, St. Mary's Hospital; 30, Welbeck Street, W.

O.M. WEBER, HERMANN, M.D., Physician to the German Hospital; 10, Grosvenor Street, W. (C. 1867–71, V.P. 1873–5.) *Trans.* 9.

1876 WEIR, ARCHIBALD, M.D., St. Mungho's, Great Malvern.

ELECTED

1868 WELLS, Sir THOMAS SPENCER, Bart., Surgeon in Ordinary to H.M.'s Household; Consulting Surgeon to the Samaritan Free Hospital; 3, Upper Grosvenor Street, W. (C. 1873.)

1882 WEST, SAMUEL, M.D. (C.), Assistant Physician to St. Bartholomew's Hospital; Physician to the City of London Hospital for Diseases of the Chest, Victoria Park, and to the Royal Free Hospital; 15, Wimpole Street, W. (C. 1887–9.) *Trans.* 10, *C.S.* 1.

1874 WHEELHOUSE, CLAUDIUS GALEN, Senior Surgeon to the Leeds General Infirmary, and Lecturer on Surgery, Leeds Medical School; Hilary Place, Leeds. *Trans.* 1.

1868 WHIPHAM, THOMAS TILLYER, M.B., Physician to, and Lecturer on Clinical Medicine at, St. George's Hospital; 11, Grosvenor Street, W. (C. 1878–80.) *Trans.* 12.

1874 WHISTLER, W. MCNEIL, M.D., Physician to the London Throat Hospital; 28, Wimpole Street, W.

1882 WHITE, EDWIN FRANCIS, Anæsthetist to St. Thomas's Hospital; 7, Dealtry Road, Putney.

1883 WHITE, WILLIAM HALE, M.D. (C.), Senior Assistant Physician and Lecturer on Materia Medica to Guy's Hospital; 65, Harley Street, W. (C. 1887–9.) *Trans.* 6, *S.C.* 2.

1883 WHITE, WILLIAM HENRY, M.D., Assistant Physician to the Royal Hospital for Diseases of the Chest; 43, Weymouth Street, W. *C.S.* 1.

1882 WHITTLE, EDWARD GEORGE, M.D., 65, Dyke Road, Brighton.

1871 WIGHT, GEORGE, M.B., C.M.; 428, Liverpool Road, N.

1879 WILCOX, HENRY, M.B., Dorchester House, Herbert Road, Woolwich.

O.M. WILKS, SAMUEL, M.D., F.R.S., Member of the Senate of the University of London; Consulting Physician to Guy's Hospital; 72, Grosvenor Street, W. (C. 1871–2, V.P. 1886–7.) *Trans.* 1.

1884 WILLCOCKS, FREDERICK, M.D., Assistant Physician to the Charing Cross Hospital; Physician in charge of Out-patients at the Evelina Hospital for Children; 14, Mandeville Place, W. *C.S.* 1.

O.M. WILLETT, ALFRED, Surgeon to St. Bartholomew's Hospital; 36, Wimpole Street, W. (C. 1872–5, V.P. 1889.) *C.S.* 1.

1888 WILLIAMS, CAMPBELL, 62, Welbeck Street, W.

O.M. WILLIAMS, CHARLES THEODORE, M.D., Physician to the Hospital for Consumption and Diseases of the Chest; 2, Upper Brook Street, W. (C. 1877–9, V.P, 1889.) *Trans.* 8.

1888 WILLIAMS, DAWSON, M.D., 25, Old Burlington Street, W.

1881 WILLIAMS, JOHN, M.D., Professor of Midwifery, University College, London; Obstetric Physician to University College Hospital; 11, Queen Anne Street, W. (C. 1885–6.)

1870 WILLIAMS, WILLIAM RHYS, M.D.

1876 WILLIAMSON, JAMES MANN, M.D.; Ventnor, Isle of Wight.

O.M. WILLIS, FRANCIS, M.D., The Spa, Braceborough, Stamford.

1889 WILLS, WILLIAM ALFRED, M.B., 19, Sackville Street, W.

ELECTED

1886 WILSON, ALBERT, M.D., Leytonstone, Essex.

1888 WILSON, CLAUDE, M.D., C.M., 6, York Road, Tunbridge Wells.

1880 WOOD, JOHN, F.R.S., Professor of Clinical Surgery in King's College, London, and Senior Surgeon to King's College Hospital; 61, Wimpole Street, W. (C. 1886–7.)

1883 WOODCOCK, JOHN ROSTRON, 263, Hagley Road, Birmingham.

1879 WOODWARD, GEORGE P. M., M.D., Deputy Surgeon-General; Sydney, New South Wales.

1884 WORTS, EDWIN, 6, Trinity Street, Colchester.

1888 WYMAN, WILLIAM S., M.D., Putney.

1872 YEO, I. BURNEY, M.D., Physician to King's College Hospital; 44, Hertford Street, W. (C. 1881–3.) *Trans.* 7.

[*It is requested that any change of Title, Appointment, or Residence be communicated to the Secretaries before the* 1*st of July in each year in order that the list may be made as correct as possible.*]

LIST OF MEMBERS.

ORIGINAL MEMBERS (ALPHABETICALLY).

Sir Henry Acland, M.D., F.R.S.
James Andrew, M.D.
Henry Arnott.
W. Morrant Baker.
Richard Barwell.
Henry Charlton Bastian, M.D., F.R.S.
John Syer Bristowe, M.D., F.R.S.
William Henry Broadbent, M.D.
Bernard Edward Brodhurst.
Thomas Bryant.
George Buchanan, M.D., F.R.S.
Thomas Buzzard, M.D.
William Cayley, M.D.
William Selby Church, M.D.
Edward Clapton, M.D.
Sir Andrew Clark, Bart., M.D., F.R.S.
John Couper.
John Croft.
William Howship Dickinson, M.D.
John Langdon Down, M.D.
Sir Dyce Duckworth, M.D.
Alfred B. Duffin, M.D.
Arthur Edward Durham.
Arthur W. Edis, M.D.
John Eric Erichsen, F.R.S.
Sir Wm. Withey Gull, Bart., M.D., F.R.S.
John Harley, M.D.
Christopher Heath.
Sir Prescott Gardner Hewett, Bt., F.R.S.
Graily Hewitt, M.D.
J. Braxton Hicks, M.D., F.R.S.
Timothy Holmes.
Barnard Wight Holt.
Carsten Holthouse.
John Whitaker Hulke, F.R.S.
George Murray Humphry, M.D., F.R.S.
Jonathan Hutchinson, F.R.S.
J. Hughlings Jackson, M.D., F.R.S.
Sir William Jenner, Bart., M.D., F.R.S.
George Johnson, M.D., F.R.S.
Sydney Jones.
Charles Kelly, M.D.
John Langton.
George Lawson.
Henry Lee.
Sir Morell Mackenzie, M.D.
Arthur Trehern Norton.
Thomas William Nunn.
John William Ogle, M.D.
Sir James Paget, Bart., F.R.S.
Frederick William Pavy, M.D., F.R.S.
Thomas Pickering Pick.
Richard Douglas Powell, M.D.
Richard Quain, M.D., F.R.S.
J. Spence Ramskill, M.D.
George Owen Rees, M.D., F.R.S.
John Russell Reynolds, M.D., F.R.S.
Sydney Ringer, M.D., F.R.S.
James Rouse.
John Burdon Sanderson, M.D., F.R.S.
Septimus William Sibley.
Thomas Smith.
Reginald Southey, M.D.
Henry Gawen Sutton, M.B.
Edward Symes Thompson, M.D.
Sir Henry Thompson.
William Spencer Watson.
Hermann Weber, M.D.
Samuel Wilks, M.D., F.R.S.
Alfred Willett.
Charles Theodore Williams, M.D
Francis Willis, M.D.

ARRANGED ACCORDING TO DATE OF ELECTION.

1868 William Cholmeley, M.D.
Constantine Holman, M.D.
Thomas Tillyer Whipham, M.B.
Christian G. H. Baümler, M.D.
John Cavafy, M.D.
Frederick James Gant.
James Grey Glover.
T. Henry Green, M.D.
Howard Marsh.
Arthur Bowen Richards Myers.
Charles Prentis.
Adolphus A. Rasch, M.D.
Hugh James Sanderson, M.D.
Edgcombe Venning.
Sir Thomas Spencer Wells, Bart.
John Ford Anderson, M.D.
George Granville Bantock, M.D.
William H. Brace, M.D.
George Charles Bright, M.B.
Frank W. Cooper.
Julian Evans, M.B.
Edward Hooper May, M.D.
Henri Gueneau de Mussy, M.D.
William Warwick Wagstaffe.
Edwin T. Watkins, M.D.
William Ogle, M.D.
Protheroe Smith, M.D.
James Edward Pollock, M.D.
Franz Oppert, M.D.
William Henry Holman, M.B.
William V. Snow, M.D.
Charles Drage, M.D.
John Tatham, M.D.
Frederick Royston Fairbank, M.D.
Henry A. Reeves.
Michael W. Rice, M.D.
William Henry Day, M.D.
John Meaburn Bright, M.D.
Berkeley Hill.
Louis Stromeyer Little.

1869 Robert Brudenell Carter.
Leonard William Sedgwick, M.D.
J. Warrington Haward.
Henry Frederick Augustus Goodridge, M.D.
Olliver Thomas Duke, M.B.

1870 William Rhys Williams, M.D.
Thomas Clifford Allbutt, M.D., F.R.S.

1871 Julius Althaus, M.D.
Robert M. Gover, M.B.
Sir William Mac Cormac.
Alfred Playne, M.B.
William F. Butt.
George Wight, M.B.
Ebenezer Diver, M.D.
George Vivian Poore, M.D.
William Edward Stewart.

1872 Thomas Cooke
J. Burney Yeo, M.D.
Henry Harris, M.D.
William Pugin Thornton.
Robert Liveing, M.D.
Anderson Critchett.
J. C. J. Fenwick, M.D.
Andrew J. Myrtle, M.D.
Sir William Bartlett Dalby.
Thomas Ridge Jones, M.D.
George Slight, M.D.
Henry Sutherland, M.D.
Thomas Stretch Dowse, M.D.
William Wilberforce Smith, M.D.
Gifford Ransford, M.D.

1873 William Julius Mickle, M.D.
Robert William Parker.
David Lloyd Roberts, M.D.
George Henry Savage, M.D.
Heinrich Port, M.D.
Edwin Chisholm, M.D.
Thomas Churton, M.D.
William Johnson Smith.
William Hope, M.D.

1874 John Hammond Morgan.
Edward R. Rowland.
Claudius Galen Wheelhouse.
Charles Douglas F. Phillips, M.D.
W. M. Whistler, M.D.
Edward C. Stirling, M.D
William Henry Bennett.
Frederick G. Ree.
William Travers, M.D.
William Brown Holderness.
Andrew Clark.
Arthur Wolcot Nankivell.

1875 Thomas Barlow, M.D.
Marcus Beck, M.S.
Sidney Coupland, M.D.
Edward Bellamy.
Clinton T. Dent.
C. D. B. Hale.
Frederick Bowreman Jessett.
Edward Liveing, M.D.
F. J. Marshall.
Edward Nettleship.

1875 William J. Walsham.
Rickman John Godlee, M.S.
William Richard Rogers, M.D.
Arthur Paul Sherwood.
T. Gilbart Smith, M.D.
James Frederic Goodhart, M.D.
William Richard Gowers, M.D., F.R.S.
William Smith Greenfield, M.D.
Charles Macnamara.
Shirley F. Murphy.
Herbert W. Page.
Frederick Taylor, M.D.

1876 Arthur E. J. Barker.
Horatio Percy Symonds.
James Godfrey Thrupp.
A. Balmanno Squire, M.B.
Archibald Weir, M.D.
David White Finlay, M.D.
Henry Greenway Howse, M.S.
John H. Waters, M.D.
Furneaux Jordan.
R. Clement Lucas, B.S.
James Mann Williamson, M.D.
George Buckston Browne.
Arthur Edwin Temple Longhurst, M.D.

1877 Robert Hogarth Clay, M.D.
A. Pearce Gould.
Edward Milner.
Henry Radcliffe Crocker, M.D.
David B. Lees, M.D.
Walter Hamilton Acland Jacobson, M.S.
Isambard Owen, M.D.
William Ewart, M.D.
Henry Morris, M.B.
William Miller Ord, M.D.
Walter Rivington, M.B.
Henry Rayner, M.D.
Edward Seaton, M.D.
Henry Ambrose Lediard, M.D.
Bernard Roth.
John Tweedy.
Henry Hugh Clutton.
Malcolm Alex. Morris.

1878 George P. Field.
Thomas Warner Lacy.
Thomas Colcott Fox, M.B.
Felix Semon, M.D.
Henry de Fonmartin, M.D.
C. H. Golding-Bird, M.B.
Donald Wm. Charles Hood, M.D.
Sir Joseph Lister, Bart., F.R.S.

1878 Francis Thomas Tayler, M.B.
F. de Havilland Hall, M.D.
Storer Bennett.
Sir William Stokes, M.D.
William Allen Sturge, M.D.
William Joseph Tyson, M.D.
W. Maunsell Collins, M.D.
James Barry Ball, M.D.
William Johnston, M.D.
Charles Robert Bell Keetley.
William Appleton Meredith, C.M.
Frederick William Strugnell.

1879 William Adams.
William Edward Burton.
James Magill, M.D.
Wm. John Vereker Bindon, M.D.
Edward Markham Skerritt, M.D.
Henry Wilcox, M.B.
James Inkson, M.D.
John Abercrombie, M.D.
F. G. Dawtrey Drewitt, M.D.
Stephen Mackenzie, M.D.
William Harrison Cripps.
Francis Patrick Staples.
Geo. Courteney Henderson, M.D.
Thomas John Maclagan, M.D.
James Edward Adams.
Henry Davy.
Thos. Walter Harropp Garstang.
George Lichtenberg, M.D.
Charles W. Mansell Moullin.
John Reuben Lunn.
Armand de Watteville, M.D.
George P. M. Woodward, M.D.
J. Neville Davies-Colley, C.M.
Robert Peel.
Frederic S. Dennis, M.D.

1880 John Wood, F.R.S.
T. Mark Hovell.
Wyndham Cottle, M.D.
B. Ball, M.D.
Henry Francis Baker.
Bernard O'Connor, M.D.
Charles Edward Beevor, M.D.

1881 George Henry Makins.
Robert William Burnet, M.D.
James Kingston Fowler, M.D.
Charles Edward Harrison, M.B
Malcolm Macdonald McHardy.
Rushton Parker.
John Williams, M.D.
Montagu Lubbock, M.D.
James Black.
Charles Creighton, M.D.

1881 William Pasteur, M.D.
Henry Fraser Stokes.
John Caldwell Uhthoff, M.D.
Henry Treutham Butlin.
H. A. Powell.
1882 George Robertson Turner.
E. Noble Smith.
Robert William Goldie.
Walter Baugh Hadden, M.D.
Frederick Charles Barker, M.D.
William Henry Kesteven.
Frederic Morell Mackenzie.
A. T. Myers, M.D.
Daniel Colquhoun, M.D.
Seymour Taylor, M.D.
Francis Charlewood Turner, M.D.
Philip Henry Bindley, M.B.
Edward George Whittle, M.D.
D. H. Goodsall.
Frederick Henry Spooner, M.D.
J. W. Dennis Dallaway.
Frederick Haycraft Berry, M.D.
Herbert Collier, M.D.
Samuel West, M.D.
Emile Emond, M.D.
Eugene Goddard, M.D.
Charters James Symonds.
Angel Money, M.D.
Alfred G. Bateman, M.B.
C. F. Coxwell, M.B.
George Allan Heron, M.D.
Augustus Joseph Pepper, M.B.
Edward Clapham, M.D.
Harrington Sainsbury, M.D.
George Thin, M.D.
Edwin Francis White.
1883 Charles Gross.
Anthony A. Bowlby.
James Anderson, M.D.
Cecil Yates Biss, M.D.
Percy Kidd, M.D.
William Henry White, M.D.
George Oliver, M.D.
Hubert Montague Murray, M.D.
Robert Fitzroy Benham.
William Henry Allchin, M.B.
John Mitchell Bruce, M.D.
William Arbuthnot Lane, M.S.
Bernard Pitts.
Winckworth Tonge Smith, M.D.
William Hale White, M.D.
William Coode Adams, M.B.
William Anderson.
Robert Leamon Bowles, M.D.

1883 James Dixon Bradshaw, M.D.
George Henry Jackson.
George Hunt Orton, M.B.
John Liston Paul, M.D.
Thomas Laurence Read.
Frederick Thomas Roberts, M.D.
Charles Alfred Ballance, M.B.
Frederick Heales Carter.
John Hopkins.
John Rostron Woodcock.
Alexander Wm. Macfarlane, M.D.
Edward Cuthbert Ring.
1884 Frederick Willcocks, M.D.
R. Percy Smith, M.D.
Edgar Duke.
John Mackern, M.B.
Paul M. Chapman, M.D.
Wilmot Parker Herringham, M.B.
Philip Henry Pye-Smith, M.D., F.R.S.
Charles Stonham.
Dudley Wilmot Buxton, M.D.
Edwin Worts.
Seymour J. Sharkey, M.B.
Frederick Treves.
William Elgar Buck, M.D.
John James Pringle, M.B.
Frederick Lucas Benham, M.D.
Walter Edmunds, M.D.
Arthur Fergusson McGill.
Stephen Paget.
Lambert Hepenstal Ormsby, M.D.
John Poland.
Edwin Leonard Adeney, M.D.
Victor Horsley, F.R.S.
Henry Carr Maudsley, M.D.
Bilton Pollard.
1885 Frederick Spicer, M.B.
Herbert Larder.
A. Hughes Bennett.
James Berry.
Frederick Walker Mott, M.D.
George Newton Pitt, M.D.
W. C. Everley Taylor.
Sidney Philip Phillips, M.D.
A. W. Mayo Robson.
Thomas Wakley, jun.
Herbert William Allingham.
Thomas William Thursfield, M.D.
Alexander Dalton Murray, M.B.
Robert Maguire, M.D.
Robert Alexander Gibbons, M.D.
Thomas Fitz-Patrick, M.D.
Tom Henry Sawtell, M.B.

1885 Wm. Dobinson Halliburton, M.D.
Henry Brewer Tait.
Charles Rotherham Walker, M.D.
Richard Caton, M.D.
Arthur Henry Robinson, M.D.
Edward Sabine Tait, M.B.
William Bruce Clarke.
Charles Barrett Lockwood.
Reginald J. Ryle, M.D.
J. Michell Clarke, M.B.
Henry George Armstrong.
Roderick Maclaren, M.D.
W. Watson Cheyne.
Edward Liveing Fenn, M.D.

1886 Thomas Dixon Savill, M.D.
John Cahill.
Charles Henry Wade.
Benjamin Wainewright.
Waren Tay.
William John Penny.
William Henry Battle.
James Hardie, M.D.
Francis Henry Hawkins, M.B.
R. Hingston Fox, M.D.
Henry Edward Juler.
John Ward Cousins, M.D.
Joseph Frank Payne, M.D.
T. Pridgin Teale.
H. H. Lankester.
Arthur T. Davies, M.B.
William C. Bull, M.B.
Charles Herbert Thompson, M.D.
Arthur Quarry Silcock.
Henry Handford, M.D.
Alfred Scott.
Albert Wilson, M.D.

1887 Archibald E. Garrod, M.D.
H. T. Rutherfoord, M.B.
Kankai Totsuka.
Thomas Frederick Pearse, M.D.
Thomas Oliver, M.D.
Francis George Penrose, M.D.
Samuel Herbert Habershon, M.D.
John Knowsley Thornton.
John Bland Sutton.
Oswald Auchinleck Browne, M.B.
Albert C. Butler-Smythe.
Joseph Arderne Ormerod, M.D.
C. J. Arkle, M.D.
J. H. E. Brock, M.B., B.S.
Francis William Clark.
A. H. Weiss Clemow, M.D., C.M.
Charles E. H. Cotes, M.B.
E. Hurry Fenwick.

1887 Henry William Freeman.
R. Lawford Knaggs, B.C.
John D. Malcolm, M.B., C.M.
Sidney Martin, M.D., B.S.
Thomas Horrocks Openshaw, M.B.
Walter Pearce, M.D.

1888 A. G. Barrs, M.D.
J. W. Batterham, M.B., B.S.
Montagu Handfield-Jones, M.D.
Alfred Rice Oxley, M.D.
Arthur Roper.
Robert Henry Scanes Spicer, M.D.
Campbell Williams.
Henry Arthur Martin, M.D.
Frederic S. Eve.
Alexander Morison, M.D.
Frederick Page, M.D.
Frederick J. Smith, M.B.
Frederick R. Walters, M.D.
Claude Wilson, M.D., C.M.
Charles H. Gage-Brown, M.D.
Arthur Jamison, M.D., C.M.
J. H. Menzies.
Frank Ernest Roberts.
George Stoker.
Robert Ashton Bostock.
Hugh Armstrong.
Hyde Marriott, M.B.
Percy Warner.
J. F. James, M.B.
Edwin A. Barton.
W. P. May, M.B.
Augustus W. Addinsell, M.B., C.M.
John Anderson, M.D.
Henry French Banham, M.D.
George Alfred Carpenter, M.B.
George Haynes Hetherington.
David James Mason, M.D., C.M.
John Inglis Parsons, M.D.
John James Pitcairn.
Walter G. Spencer, M.S., M.B.
Philip D. Turner, M.D.
Dawson Williams, M.D.
William S. Wyman, M.D.

1889 Theodore Dyke Acland, M.D.
Stanley Boyd, M.B.
Wm. Alexander Carte, M.B.
John Duncan, M.D.
Edward Ashby Fardon.
George Ezra Halstead, M.D., B.S.
Herbert Elwin Harris, M.B.
Raymond Johnson, M.B., B.S.
P. MacBride, M.D.

1889 D. Newman, M.D.
W. Pemberton Peake.
John E. Ranking, M.D.
H. Davy Rolleston, M.B., B.S.

1889 Edward Stewart, M.D.
Henry Herbert Taylor.
William Alfred Wills, M.B.

REPORT

OF THE

COUNCIL OF THE CLINICAL SOCIETY.

DECEMBER, 1888.

THE Council have pleasure in again being able to report the continued and increasing prosperity of the Society.

During the year three members have been removed by death—Dr. W. B. Houghton, Dr. J. Chalmers, and Dr. Greenhow. The last named was one of the Founders, one of the Trustees, the Treasurer for many years, and a past President of the Society; he died suddenly at the Charing Cross Railway Station but a few weeks ago, and had been present at a meeting of the Society immediately preceding his death, and had been publicly welcomed by the President. His loss will be as severely felt by the Society as by the many friends with whom he had long and successfully worked. 38 members have joined during the past year (12 non-resident and 26 resident), and 4 have resigned, so that the Society now numbers 495 members, of which 15 are honorary, 124 non-resident, and 356 ordinary members.

The Council think they may congratulate the members on the financial condition of the Society notwithstanding that the balance at the bankers is only a small one. The expenses of the past year have been unusually heavy, owing to the publication of the Myxœdema Report *in addition* to the usual volume of 'Transactions.' This Report has cost the Society altogether £400, part of which sum, however, may be regarded as an investment, since, of the 1350 copies printed, a proportion will be offered for sale. It is a matter for real con-

gratulation that with the assistance of a donation of £100 from Dr. Ord, the Council have been able to meet this extraordinary expenditure out of ordinary revenue, and without drawing upon the reserve funds of the Society, which amount to £600.

As evidence of the scientific activity of the Society the Council can point to the current volume of the 'Transactions,' as well as to the supplementary volume containing the Report on Myxœdema. As a special feature of the former, the Council would point out that subjects, as far as possible, have been brought forward and discussed in groups; the plan has been found to answer well, not only in securing a good discussion, but also in enabling more work to be got through than would be possible were each paper discussed singly and without such grouping. The Council propose to continue the same plan throughout the current session, and invite the co-operation of members to this end. As regards the Myxœdema Report, the Council most warmly congratulate the Society on its completion and on its thoroughness. They again desire to express to members of the Committee their sense of the obligation under which the Society rests for the great labour bestowed by them on this work, and would especially thank Dr. Ord, as Chairman of this Committee, and Dr. Hadden, the Honorary Secretary, for their valuable services.

The Council are pleased to be able to state that an influential Committee has just been appointed to consider the incubation periods of infectious diseases, and doubt not that a Report worthy the Society will in due course be presented.

The Council are anxious to secure, not only the attendance, but also the working co-operation of all the members of the Society, and especially of such as are engaged in general practice. It is felt that the records of cases from private practice, even though reported with less detail than is usual in hospital cases, would enhance the value of the 'Transactions,' and render the meetings more practically useful to the members at large. The Council refer with satisfaction to some valuable papers contributed during the past sessions by members connected with some of the great provincial hospitals, and with a view to enlarge the scope and usefulness of the Society, trust to see further developments in this direction.

From every point of view, therefore, the Society appears to be increasingly prosperous.

CLINICAL SOCIETY OF LONDON.—BALANCE SHEET, 1887-88.

1887-8	Dr.	£	s.	d.	1887-8	Cr.	£	s.	d.
	To balance at bank, 1st January, 1888	37	10	6		By Cost of *Transactions*, Vol. XXI:			
	„ 317 Subscriptions at 21*s.*	332	17	0		Paper, printing, and binding	121	9	3
	„ 3 „ in advance for 1889	3	3	0		Illustrations	45	16	6
	„ 37 Admission fees at £2 2*s.*	77	14	0		Delivery	7	15	6
	„ 2 Composition fees at £15 15*s.*	31	10	0		Advertising and Longmans' commission	5	11	2
	„ Sale of *Transactions*:					„ Meetings:			
	By Longmans	30	9	1		Expenses of rooms	78	15	0
	„ 53, Berners Street	0	17	0		Refreshments and attendance	29	11	5
	„ Composition fees	10	10	0		R. Coldrey, for attendance	7	10	0
	„ Dividends on Consols:					Secretarial assistance	18	18	0
	January	8	14	9		Collection of subscriptions	18	14	0
	April (with bonus)	5	17	5		Printing and stationery	17	1	1
	July	4	7	9		Petty cash	8	9	10
	October	4	7	9			359	11	9
	„ Donation by Dr. Ord	100	0	0		„ Myxœdema Report:			
						Printing and Binding £224 3 6			
						Illustrations 57 0 0			
							281	3	6
						„ Balance at Bank.	7	3	0
		£647	18	3			£647	18	3

Amount of Stock ("Goschen's") standing in the names of the Trustees, January 1st, 1889 . . £600.

Examined and found correct, *January*, 1889. { ALEXANDER MORISON, M.D., J. BLAND SUTTON, } *Auditors.*

CHRISTOPHER HEATH, *Treasurer.*

ROBERT WM. PARKER, *Hon. Sec.*

PRESIDENTIAL ADDRESS

DELIVERED AT THE

CLINICAL SOCIETY OF LONDON

ON JANUARY 25TH, 1889.

BY CHRISTOPHER HEATH, F.R.C.S.

PRESIDENT.

GENTLEMEN,—On taking this chair for the first time let me thank you for the honour you have done me in electing me the twelfth president of the Clinical Society of London. In conjunction with Dr. Burdon Sanderson and Dr. Headlam Greenhow (whose death we have had so recently to deplore), I took an active part in the foundation of the Society in 1867, and was, in fact, to have been the first surgical secretary, but for certain complications, which led to my declining office. As a member of the Council for the first four years of its existence I took part in framing the rules, which have worked so well for the prosperity of the Society, and for the last ten years I have been entrusted with the care of the Society's funds, and am happy to hand over to my successor a satisfactory balance.

Having thus been cognisant of the working of the Society from its inception, I think I may venture to congratulate its members upon the thoroughly good work which has been done here, and especially upon the great value of the Reports which have been drawn up by its Committees, notably those on spina bifida and myxœdema. As a surgeon I can testify to the great value of the facts brought together with so much labour by the Committee on spina bifida, while it is not too much to say that the handsome volume on myxœdema, which we owe to the labours of Dr. Ord and his colleagues, will be

for years the standard work of reference upon the subject. The practice of grouping cases brought before the Society has proved so advantageous in promoting discussion that there can be no question as to the propriety of continuing it, and I would venture to say a word in favour of the practice of bringing living patients for examination by the members of the Society. Written descriptions, however graphic, and even when illustrated by photographs, can never be so satisfactory as the actual patient who can be seen and handled; and, as we all come here to *learn*, the more extended our acquaintance with living morbid appearances the better. Mr. Hutchinson in his recent Bradshaw Lecture has urged the importance of clinical museums replete with drawings and photographs, as well as specimens of disease, and I would point out that we can have here every fortnight a collection of living specimens more valuable than the contents of any museum. It is very desirable, however, that, when possible, living specimens should be exhibited more than once, in order that the Society may judge of their progress and of the effects of remedies or operations.

The Council of the Society has recently been considering how the exhibition of patients might be more conveniently managed, especially for the members of the Council itself, who have hitherto been practically debarred from examining the cases exhibited on council-nights; and I am authorised to announce that for the future the second meeting in each month (which is not the council-night) will be specially devoted in part to the exhibition of living patients. The chair will be taken on these nights at *eight* o'clock, and the first hour of the meeting will be devoted to the demonstration and discussion of patients, who will be dismissed at 9 o'clock, when the papers will come on in due course. This will, we hope, prove satisfactory to the Society, and obviate some of the present inconveniencies.

It will be within the knowledge of many members of the Society that a few years back the Council of the Pathological Society appointed a Committee to go through the published volumes of its *Transactions*, then thirty-one in number, "with the object of ascertaining what cases, if any, there were, the histories of which were incomplete at the time of publication, but with respect to which it was reasonably probable that their authors might add facts which would increase the value of their reports." The results of the investigation formed a report which was perhaps a little disappointing, but which

still gave most useful information respecting a considerable number of cases. One reason for the frequent failure to obtain the required information was the inevitable one that death had removed many of the authors in the course of thirty years, and it is because this Society has now existed over twenty years that I think the time appropriate to suggest the feasibility of our undertaking a similar task, with perhaps better chances of success.

Mention of the Pathological Society (of which I suppose we are most of us members) reminds me of the saying of an old friend who visited that Society one evening after an absence of many years, and reported in these words: "I found them showing the old specimens under new names, and talking a language which I did not understand, but they were more positive about the correctness of their views than ever." Now it is this positiveness of the pathologist that I, as a clinician, venture to enter a protest against, and I think one of the most useful functions of the Clinical Society may be to check the results arrived at in this room by the members of the sister Society. Because a tumour shows microscopically an appearance which brings it into the class of sarcomata, I should be very loth to classify the case as one of "malignant" disease, without knowing fully the history of the patient both before and after the operation. Let me quote an example or two from my own practice. In 1883 I removed the upper extremity, with the scapula and part of the clavicle, from a lad of sixteen. The growth was a spindle-celled sarcoma undergoing ossification, and upon that evidence alone, when I brought the case before the Royal Medical and Chirurgical Society, I was taken warmly to task by two ardent pathologists for expressing a hope that I had permanently relieved my patient, and was told that the disease would certainly recur and destroy him. It did recur, for seven and a half months later I removed a small nodule from the cicatrix: two years and a half after the amputation I cut a small mass out of the pectoral muscle, and again last November, more than five years after the amputation, he returned with two nodules near the cicatrix, which I removed, leaving him in apparently perfect health. In October, 1883, I removed a sarcoma from the muscles on the inner side of the thigh of a girl of fourteen. Recurrence took place, and five and a half months later I repeated the operation, but was unable to get away all the disease, and was only prevented from amputating at the hip-joint by the fact

that even then some of the growth would have been left on the pelvis. Yet the patient is still alive and thriving, though there is a tumour in the thigh which shows little tendency to increase. In 1882 I removed a myxo-sarcoma of the upper jaw from a man of fifty-three. In five months he reappeared with recurrence of the disease, which was again freely removed, a third time after another five months, and a fourth time after a like interval; so that four serious operations were performed in about twenty months, and yet he is now, nearly five years after the last operation, in perfect health and without a vestige of disease. And yet in a well-known work on *Malignant Disease* I am taken to task by name because in my book on *Diseases of the Jaws* I have separated the sarcomata other than the round-celled from the malignant tumours of the jaws, which include, of course, all varieties of carcinoma. The fact is that the class sarcomata includes growths of very varying degrees of malignancy, ranging from melanotic sarcoma at one extreme to myeloid sarcoma at the other, as, indeed, all pathologists allow; but what I maintain is that many cases of spindle-celled sarcoma are infinitely less malignant in their clinical history than the histological appearances would lead one to expect.

I venture also to enter a protest against the idea that the malignancy or otherwise of a tumour, so far at least as concerns the necessity for its prompt removal in any given case, can only be settled by microscopic examination. If the surgeon, with the patient before him, and with a full history of the growth of the tumour, cannot make up his mind whether it ought to be removed or not without previously extracting a small portion for microscopic examination, I venture to think he has mistaken his vocation. Clinical experience alone will guide the surgeon most satisfactorily as to the cases he ought and ought not to interfere with, and it is the well-being of that particular patient, and nothing else, that ought to weigh with him. Of course it is very satisfactory when the microscope confirms the diagnosis of the nature of a growth made before its removal, and yet how often do we find the after-history belie the prognosis of the microscopists, —even when they agree!

Now, I believe that incorrect deductions are at present drawn because the number of cases recorded in full detail is comparatively small, and it is impossible for any author, however diligent he may be, to follow up all the cases and learn their final results. Here, then, is a field for clinical

work which it seems to me our Society might well engage in. Every London hospital has or ought to have a surgical registrar, and many of these gentlemen are already members of this Society. If we could induce a committee of registrars to undertake the work of looking up all the cases of sarcoma and carcinoma which have passed through the wards of their respective hospitals during a period of ten years, providing for them the funds which would be necessary for following up each case to its termination, we should have a mass of material of the most valuable and reliable description, which would go far to decide many moot questions of pathology. Even as regards carcinoma there are many points on which accurate information, and not mere impression, is greatly needed. I should have supposed that surgeons were at one with regard to removing the entire breast in cases of cancer, but I find that Mr. Butlin does not consider this necessary or advisable. Mr. Banks, of Liverpool, and Mr. Pearce Gould, have urged that the removal of all the lymphatic glands of the axilla is advisable whether they are diseased or not, whilst Mr. Butlin brings forward weighty arguments against the practice. Again, should the lymphatic vessels leading to the glands be removed or let alone?

Whilst ready to give the credit to the antiseptic system, introduced by a former distinguished occupant of this chair, of diminishing the risk and pain of operations by procuring healing by first intention, I am not quite sure whether our recurrences after operations for cancer are not more rapid in these beautifully healed linear cicatrices than they were in the old days when profuse suppuration probably eliminated any particles of disease which had escaped the knife. My friend Mr. Swain, of Plymouth, a surgeon of large experience, tells me that he has given up using stitches in the removal of a breast, because he noticed the tendency of each little scar to become affected with recurrent disease. Is that a fact, and if so how is it to be explained? Again, in operations which are, from the nature of the case, incomplete, for example, where the surgeon finds it impossible to remove the whole of an extensive epithelioma, does the interference light up greater activity in the portion left, and is the last state of the patient better or worse than the first?

Mr. Butlin, whilst recognising the benefits of Listerism, maintains that its success is leading surgeons into two errors. "The first, and by far the less serious, of the two is the performance of operations which are far more severe than the

individual cancer calls for. The second, and by far the most important, is the extension of operative surgery to the cancers of parts of the body which can only be removed with the gravest danger to the patient." I am afraid, from what I have both seen and heard, that there is some truth in these indictments, and I would venture on my own account to add another, which I mentioned in this room nearly a year ago. It is that patients will, and do, suffer from shock to their nervous systems after severe operations, notwithstanding all antiseptic precautions, and indeed in some cases because of them. Mr. Banks, of Liverpool, in his paper on *Cancer of the Breast*, puts it very forcibly thus:—"Let any healthy woman get out of a warm bed, strip herself naked to the waist, and then go and lie down on her kitchen table for forty minutes, and I shall be very much surprised if she has not a cold next day. But in addition to this let a cold spray play upon her, and furthermore let a great mass of heat-conserving skin and fat be carried away from the chest, so that nothing but ribs and muscles intervene between the lung and the air, and still let the cool spray play upon her. Is not this likely to be very depressing? I am convinced that it is; and if the operator, in place of doing his work rapidly, niggles and fiddles about it, so that the patient is kept for a long time under the combined lowering influences of cold spray, anæsthetic and loss of blood, then the result is that a distinct catarrhal pneumonia very speedily appears."

Again, my friend Dr. David Cheever, of Boston, has kindly sent me a reprint of a paper on *Shock* which he read at the First Triennial Congress of American Physicians and Surgeons, held at Washington last September. In it he says:

"Formerly the time consumed in an operation was short. An amputation was hurried, now it is deliberate; an abscess was incised, now it is aspirated and curetted; a joint injury was cut off, now it is excised; the peritoneum was peeped into, now it is boldly explored; the bladder was cut for stone, now it is a prolonged crushing and washing; a breast was amputated, now the axilla is formally dissected. The old method was a matter of minutes, now it is one of hours. Patients are frequently from one and a half to two hours on the operating table, and three hours in recovering consciousness so that they can swallow. Do we realise what this prolonged cutting, pinching and dissecting means to the nervous system after anæsthesia is past? Does not the long exposure of the great

veins to the air in dissecting tumours increase coagulability and future infarction? Can the peripheral nerves be lacerated *seriatim* without exhausting their constitutional irritability? It is recognised that long-continued and large dissections on the front and sides of the neck are especially fatal." And again—

"In feeble subjects the lack of nourishment which precedes an operation, desirable on account of safe anæsthesia, is much aggravated by their inability to retain food after the operation. This has an important influence in bringing about collapse.

"Lowering of the bodily temperature is constant after an operation under anæsthesia. The thermometer frequently falls to 97°, to 96°, and after severe and prolonged operations, to 95° Fahr. This is a very serious matter, and has a marked influence in delaying reaction from shock. This chilling of the vital heat is induced, first by anæsthesia, which if prolonged ends in a dripping sweat; next, by careless exposure during an operation. Then also it is largely due to antiseptic irrigations, to vapour douches of similar agents, to applications of cloths wet in corrosive or carbolic solutions around the site of the operation.

"The axillæ, the neck, the thorax and the abdomen are especially prone to deleterious chilling in this way."

Of course I am perfectly aware that many surgeons, myself among them, hardly ever employ the carbolic spray nowadays, but even without this there is, I believe, considerably increased risk to the patient in the exaggerated slowness of modern surgery. For a patient to breathe the vapour of ether or chloroform for over an hour is a serious matter for both heart and lungs, and when we add to that a steady drain of blood going on for an equal time, one cannot be surprised at the production of deadly shock. And is there any gain after all in elaborate dissections of the living, as though it were the dead body? I believe not, and having had a fair amount of experience in removing tumours of all sizes from all parts of the body, I would urge surgeons to use the left hand a little more, and the right a little less than now seems to be the fashion. I mean, to make forcible traction with the one hand whilst dividing the tense structures with the other, so as to avoid dissecting-room proceedings with scalpel and forceps as much as may be. I hope I shall not be misunderstood as decrying careful dissection in appropriate cases, *e. g.* the ligature of large arteries; for I fear, from what I see in

examining candidates for the higher surgical degrees, that a blunt director must be used by some teachers in what I consider to be a very dangerous manner.

In order to guard against the shock of large operations on weakly patients, I have for some years now availed myself of a suggestion which I owe to an American surgeon—whose name I have unfortunately forgotten—viz. half an hour before the operation to inject into the rectum with a long tube two ounces of brandy with four of hot water. This acts as a reserve of power which can be absorbed at leisure, and has the advantage over the administration of a stimulant by the mouth that it cannot embarrass the breathing. The injection can be repeated during the operation if necessary, and may be combined with the subcutaneous injection of ether. Lastly, I strongly advise the subcutaneous injection of from gr. $\frac{1}{4}$ to $\frac{1}{3}$ of morphia, combined with gr. $\frac{1}{120}$ of atropine before the patient leaves the table, believing that not only is pain thus relieved, but that sickness is materially kept in check by the combination of drugs.

I have ventured to make these remarks, gentlemen, believing that the word clinical, as applied to our Society, should be taken in the broadest sense—as relating not merely to the recording of cases, but to all that wide field of therapeutics which may enable us to relieve our patients *cito, tuto et jucunde.*

COMMUNICATIONS.

I.—*A case of Injury to the Elbow-joint—implicating the ulnar nerve; unreduced dislocation of the head of the radius.* By T. W. Nunn. *Read October* 12, 1888.

A YOUNG GENTLEMAN, æt. 16, at school in France, had a fall in the playground in taking a leap; it is probable, therefore, that the hand and not the elbow first came in contact with the ground.

The accident happened early in the November of 1881. I saw the patient during the following Christmas holidays. I found that there was some swelling about the left elbow, that the forearm could not be completely extended, and that the extension as far as it went was not in the normal line, the radial border being bent inwards. The head of the radius could not be felt in its proper position. The hand was "en griffe," that is to say, the fingers were partially flexed (*vide* Woodcut). The inner condyle of the humerus was less prominent than in the opposite arm.

Two things appeared tolerably clear: 1st, that the head of the radius was dislocated forwards, and 2nd, that the ulnar nerve had been more or less lacerated, thus causing the claw-like position of the fingers, especially as some indistinct thickening could be detected along the course of the ulnar nerve above the elbow.

Sir Prescott Hewett (then Mr. Prescott Hewett) saw the case with me, and agreed that we should endeavour (the patient being placed under the influence of an anæsthetic) to reduce the dislocation of the radius, than which reduction nothing at first sight could seem easier to be done.

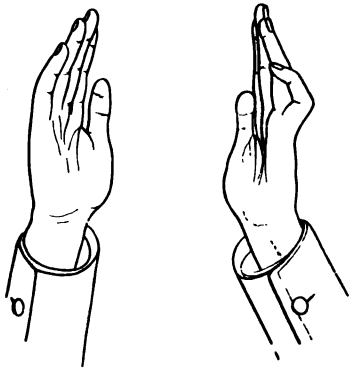
The attempt was accordingly made, but we did not succeed in our object.

The opinion of the French surgeon who saw the case in the first instance was that a separation of the inferior epiphysis of the humerus, with displacement or fracture of the lower end of the humerus one or two centimetres above the articulation, had taken place, and that there was a small splinter broken off from the shaft, but that there was no luxation of the radius.

I had the opportunity of examining the young gentleman in November, 1886, thus five years after the accident. Referring to his former condition, he told me that he lost sensation in the little finger and the next one for a considerable time, perhaps six months, that on pinching these fingers there was a dull pain; when cold or when the arm was flexed the fingers became more bent towards the palm. He also told me that still, when leaning on the elbow or if he kept the arm bent (flexed) for any length of time he felt "pins and needles" or numbness in the two inner fingers.

On examining the limb I found that the forearm could not be quite fully extended, and without question the head of the radius rested on front of the capitellum of the humerus, and that the inward bowing of the arm remained.

Fig. 1.



On extending the forearm to its utmost limit there appears to be an undue bulging under the condylar origin of the superficial layer of the flexors, with loss of prominence of the in-

ternal condyle. The usefulness of the arm is not impaired in any essential degree.

The woodcut (Fig. 1) shows the condition of the hand in the early months after the accident, and illustrates the effect of injury to the ulnar nerve, namely, the inducing of the claw-like position of the fingers through the paralysis of the interossei and inner lumbricales muscles.

The claw-like position of the fingers had almost disappeared in 1886.

The purpose of recording this case is threefold: First, to describe an unusual complication in fracture of the elbow and to illustrate the effects on the nutrition of the muscles of the hand by injury of the ulnar nerve as pointed out by Duchenne. Secondly, to describe the bowing of the arm inwards as a result of the fracture. And, thirdly, to suggest (as was done on the conclusion of the reading of the case) that fractures of the elbow should be put up in the fully extended position.

P.S.—I was not aware at the time that Dr. Illingworth, of Acrington, had advocated this position in a paper read at the Dublin meeting of the British Medical Association in 1887, as by some means the publication of his paper was delayed until February 9, 1888. Dr. Carl Lauenstein, of Hamburg, made a communication to the German Surgical Society, giving detailed arguments in favour of the extended position (vide *Verhandlungen der deutschen Gesellschaft für Chirurgie*, April, 1888).

I have twice at the Pathological Society shown photographic illustrations of the effect of division of the ulnar nerve (vide *Transactions Path. Soc.*, vols. xvii and xxv, pl. iii).

II.—*A case of Pulmonary Gangrene treated by incision and drainage.* By W. Pasteur, M.D. *Read October* 12, 1888.

H. W. T., the subject of this communication, was a slim, rather delicate boy, æt. 7. His father died of phthisis; the family history is otherwise unimportant. He had whooping-cough at eight months, and measles badly when three years of age. He appears to have made a complete recovery. There is no history of his having swallowed a foreign body.

His present illness was insidious in onset, but had developed rapidly within a week or ten days without definite or salient symptoms. When first seen at the North-Eastern Children's Hospital on October 21, 1887, he was febrile, with moist, coated tongue and accelerated breathing with some dyspnœa. There were impaired resonance and blowing breathing without râles at the right apex in front. The breath was not offensive. That same evening his cough was more troublesome, and he spat up a considerable quantity of bright blood. His mother then noticed for the first time that his breath was very offensive.

He was admitted on October 22 in the following condition: Temp. 101° F.; skin moist; tongue moist and thickly furred; respirations 32; pulse 116, bounding, compressible. Chest well formed and symmetrical; right apex a trifle fuller than left. Thoracic movements deficient at right apex. Percussion note impaired from right clavicle to fourth rib in mammary line, to fifth rib in mid-axillary line and behind in the supraspinous fossa. Over this area, weak tubular breathing without râles and diminished voice conduction. Resonance good over remainder of right lung, but not quite as clear as over the left, where the physical signs were normal throughout. Heart's apex-beat in normal situation; impulse feeble; sounds rapid and free from bruit. Abdomen natural. Spleen and liver not felt. Urine normal.

October 28.—Complains of pain in the right side. Percussion note more tubular at right apex in front. Breath-sounds almost inaudible. No crepitations, metallic tinkling, or bell sound. Has coughed up about 4 oz. of fœtid frothy muco-pus.

November 4.—Percussion note now distinctly amphoric over first two interspaces, with very weak amphoric breath-sounds. Right back dull as low as scapular angle. Breath-sounds here fairly loud and tubular. A few scattered moist crepitations over the base. Temp. irregular, ranging between 100° and 103·6° F. Has lost ½ lb. in weight during the week. Complains constantly of pain at the right apex, which is exquisitely tender on percussion. Cough very frequent and distressing. Expectorates daily from 2 to 4 oz. of stinking watery fluid consisting largely of saliva. Respirations about 30. Pulse feeble, usually over 120. Sleeps fairly well at night and is quite free from sweats. Action of bowels natural.

There was not much change in the patient's condition for the next ten days. Once pleural friction was detected in the right axilla, and a few moist râles were heard above the right clavicle also on one occasion. There were well-marked signs of consolidation over the right back, with weak breathing towards the extreme base.

Up to this point the treatment consisted of free stimulation and antiseptic inhalations, with anodynes and counter-irritants externally.

The physical signs pointed pretty clearly to the presence of a gangrenous cavity at the right apex, and as the patient was losing ground I asked Mr. Pollard to see him with a view to incise and drain the cavity, as this course now appeared to me to hold out the only chance of recovery.

We saw the patient together on November 14, and Mr. Godlee was kind enough to come down and give us the benefit of his experience.

Mr. Pollard operated the next day, and has kindly furnished the following account of the operation:

A trocar and cannula were inserted in the anterior part of the second right intercostal space. Some foul gas and muco-pus escaped through the cannula. The latter was then withdrawn, and an incision about 2 inches long was made in the second intercostal space and deepened until the pleura was reached. As soon as the pleura was divided a little pus and a large quantity of fœtid fluid escaped. The opening was enlarged, and masses of gangrenous lung mixed with putrid fluid were expelled. The cavity was then explored with the finger, and found to reach down to the sixth rib. The anterior wall was smooth, and appeared to be formed by the parietal pleura, a view which was supported by the fact that after the intercostal muscles had been divided, incision

of a very thin membrane opened the cavity. The posterior and lateral boundaries of the space were formed by broken-down firm lung tissue. A counter-opening was made in the sixth space in the anterior axillary line. The cavity was then washed out with warm boracic acid lotion, and its walls dusted over with iodoform powder. A flanged tube was placed in each wound, and a dressing of salalembroth gauze and wool was applied.

November 16.—The patient was profoundly collapsed after the operation, but rallied quickly in a few hours. This morning he is quite comfortable and free from pain. Cough is only very occasional, and the sputa are now frothy and almost free from fœtor.

The subsequent progress of the case may be summed up in very few words.

The cavity was washed out about twice daily with warm boracic acid solution, and then with a weak solution of iodine. For the first three days the washings were rather offensive and contained much débris and small sloughs. On the fourth day they contained pus-cells, and deposited a copious sediment of pus on the seventh day.

The temperature, however, remained high (100° to 103·6°), the respirations between 40 and 50, the pulse between 145 and 175. On November 18 (fourth day) a trace of albumen was detected in the urine. The child took food and stimulants well for the first five days, after which intolerance of the stomach came on. This complication was successfully dealt with by substituting nutrient enemata, &c., for a couple of days.

On November 22 (one week after the operation) the condition of the chest was as follows:

Right front: clear amphoric percussion note and breath-sounds down to the fourth rib, and outwards to the mid-axillary line. Exquisite tenderness on percussion. Percussion note impaired below fourth rib, with very weak tubular breath-sounds. Over whole of right back signs of consolidation, with weak breathing towards the base.

Although much less distressed than before the operation, the patient was now losing ground rapidly. On November 24 gangrenous fœtor of breath returned, and the temperature began to fall on the 26th, whilst the pulse-rate steadily increased. Careful examination of the heart and lungs revealed nothing fresh.

Death occurred on November 27, thirteen days after the

operation. The intellect remained perfectly clear to the last.

Necropsy (thirty-six hours after death).—Slight rigor mortis. Moderate emaciation. Chest fairly symmetrical. There is amphoric percussion over the right front as far out as the mid-axillary line; the rest of the lung is dull. The upper opening into the cavity is in the second interspace one inch from the sternal margin, the lower opening in the sixth space 4½ in. from the median line.

Right lung: In front of the anterior axillary line both pleural layers are inseparably united. Behind this is a zone of firm adhesions about an inch in width, whilst over the remainder of the lung the pleural layers are thinly glued together by recent lymph. The pericardium is firmly adherent to the right pleura. With the exception of the extreme apex, the anterior third of the lung (including all three lobes) is occupied by a huge cavity. At its lower and inner part the pleura has been destroyed over a small area, but everywhere else the outer wall of the cavity is separated from the visceral pleura by a thin layer of lung tissue about ¼ in. thick. The cavity is clean, and lined for the most part with a thin layer of red granulation tissue, to which many thin membranous sloughs are still loosely adhering, but along its inner margin there is still a certain amount of necrosed lung which has not become detached. At a spot on a level with the upper part of the pericardium the gangrene had extended through the pleura into the former. The remainder of the right lung is pneumonic and œdematous (sinking in water). A little pus exudes from its bronchi on pressure.

Two or three large bronchi communicate directly with the cavity, but their orifices are plugged by soft vascular tissue.

The trachea and left bronchus appear healthy, but the right bronchus and its branches are acutely inflamed.

There is no sign of thrombosis of the pulmonary artery. The œsophagus is firmly attached to the right bronchus about 4½ inches below the base of the cricoid cartilage. At this spot there is a small dimple on its inner surface containing a minute opening through which air and pus make their escape when the right lung is compressed. A small blunt probe inserted here passes readily into a sinus alongside the bronchus for about ¾ of an inch. In opening up the bronchus the extremity of the sinus was inadvertently divided, so that the opening into the bronchus (which was evidently very

small) could not be actually demonstrated. That a communication existed is obvious from what has been stated. There is no sign of abscess or caseating gland along the track of the sinus. The bronchial glands are moderately swollen but nowhere caseous. There is no evidence of tubercle. The left lung is healthy. The pericardium contains some 3½ oz. of turbid flaky serum, and is acutely inflamed throughout. At its upper and inner aspect is a circular greenish-yellow patch of necrosis. There is no endocarditis. The peritoneum is healthy. The liver and kidneys are slightly swollen, but otherwise normal in aspect. The spleen is normal. The brain was not examined.

Remarks.—Whether this cavity originated in the liquefaction of a massive septic pneumonia or resulted from the more gradual coalescence of a number of separate gangrenous foci, I cannot say. But the absence of râles in the affected area almost from the first, is evidence of an early and complete occlusion of the bronchi in communication with it.

There can be no doubt, I think, that the gangrene was set up by the passage of irritative material (probably decomposing food-stuffs) from the œsophagus into the lung along the sinus above described. That sinuses such as this occur in connection with bronchial abscess is well known. I have met with two other instances recently. Both cases ended fatally by gangrene of the lung following perforation into the bronchus. Had any remnant of an abscess or disorganised gland been found in the present instance such an explanation would probably have passed unchallenged. But in the absence of any such remains or of any signs of disease of the bronchial glands I am doubtful whether we are justified in looking upon this sinus as evidence of a glandular abscess. Failing this, the only other explanation which occurs to me is that the morbid material may have been conveyed into the lung from the œsophagus by ulceration along with some pointed foreign body, such as a pin or a fish-bone. This, I need hardly say, is purely speculative.

The limitation of the morbid process to the anterior region of the lung, and the participation of all three lobes in the formation of a single cavity, are worthy of notice.

As regards the operation, the indications for surgical interference were sufficiently clear. It was evident that the communication with the bronchi was altogether insufficient to afford a free exit to the necrosed lung tissue.

The patient was losing ground rapidly, and treatment by

free stimulation and antiseptic inhalations had been given a more than fair trial and had failed.

Lastly, the physical signs pointed to the presence of a large cavity in an accessible situation.

The operation afforded an almost instant relief from the most distressing symptoms, which was fairly maintained until two or three days before death, when the gangrene reached the pericardium.

It will be conceded, I think, that the amount of repair which took place in a cavity of such enormous size under conditions the reverse of favorable is very encouraging.

In conclusion, I can only regret that I did not advise an earlier operation. It would undoubtedly have given the patient a better chance, and considering the good fight he made against such overwhelming odds, the result might well have been different.

III.—*A case of extensive Anchylosis of the Skeleton, with diaphragmatic breathing.* By Alexander Morison, M.D. *Read October* 12, 1888.

F. G., male, æt. 44, formerly a clerk, now compulsorily retired, is the subject of anchylosis of the greater part of his frame.

His family history is neurotic and rheumatic. His father died of apoplexy, one sister has hemiatrophy of the face, and several others are hysterical. His mother suffers from hysterical aphonia, and has almost constant intermittency of heart without valvular lesion. A brother has infantile paralysis of one leg, and an intelligence less than average. A sister died of heart disease after rheumatic fever.

The patient himself is a man of average intelligence. When nine years of age he had acute rheumatism. About seventeen years ago, shortly after his third attack of gonorrhœa, he also suffered severely from rheumatism, and in 1872 wintered in Algiers, whence he returned in much the same condition as when he left England, and soon afterwards had a severe attack of what was called sciatica, in the right leg, and by which he was confined to bed for twelve months. To this attack and the consequent recumbency he refers the talipes equinus to be mentioned presently. During this period he had also inflammation of the base of the left lung, and I had an opportunity of seeing him for his medical attendant, since dead. He has since that time been under my care for rheumatic iritis on two occasions. The stiffening of the affected joints advanced steadily to anchylosis in both shoulders, both hips, all the ribs, and the vertebral column. The knees are very much restricted in movement, but are not quite anchylosed, and there is a twisting of the head towards the left shoulder, and acquired talipes equinus of the right ankle, with pronounced retraction of the flexor longus hallucis. The inferior maxillary joint on the left side has been inflamed, and is slightly stiffened.

The joints retaining free mobility are the wrists, elbows, fingers, and left ankle.

When raised out of bed or off a chair, the patient has to be lifted up wholly and tilted on to his feet; and when laid

down allowed to fall back of-a-piece, without any movement of the vertebral column or flexion of the legs, which are separated permanently at the pubis, at an angle of about 45°. When recumbent, he has to take fluids through a glass syphon, bent at an appropriate angle.

Visible *respiration* is entirely abdominal, no thoracic movement being perceptible on careful inspection, palpation, and measurement. Coughing, which is short and jerky, as well as laughter, causes slight movement of the lower ribs, perceptible at their cartilages.

The *abdomen* is prominent and, relatively to the chest, like that of a woman about six months pregnant. The abdominal expansion on inspiration begins in the iliac and hypogastric regions, and travels up with a vermiculoid or sinuous movement to the hypochondria and epigastrium.

The respiratory acts number 21—22 in the minute.

The expiratory capacity of the chest after full inflation, gave with Lowndes' spirometer an average of 96 cubic inches. The patient's normal height was 5 ft. 8 in. His brother, 5 ft. 7½ in. in height, gave an average of 156 cubic inches, while a man 6 ft. high gave 290 cubic inches.

The antero-posterior diameter of the right apex, measured by calipers, was 5 in.; that of the left apex 6¼ in; the greatest transverse diameter of the thorax 11 in., while its greatest circumference was 28 in., as compared with 31⅛ in. for the abdomen about the level of the umbilicus.

Faradization of the pectoral muscles gave a negative result. Placing the electrode over the motor point on the external thoracic nerve produced no general contraction of the serratus magnus, but the shock caused the patient to start, so as to put the posterior fold of the axilla on the stretch, together with a muscular contraction which I referred to the thicker portion of the serratus magnus. This muscle, however, judged by this test, I considered on the whole to be atrophic.

The *heart* is normal in action, although the apex-beat is with difficulty perceptible by the hand, and is still more difficult to localise. There is no visible beat. Percussion and palpation show it, however, to lie to the inner side of and below the left nipple, and percussion *resonance* is rather more to the left than usual.

The *liver* and abdominal organs are apparently normal in situation and extent, but the percussion and palpation of the latter is somewhat masked by the flatulent distension and exaggerated respiratory movement of the abdomen.

The *bowels* act normally and regularly, and the appetite is good.

In March, 1888, the patient was under my care for an attack of rheumatism in the left shoulder, when I had an opportunity of examining his urine. The quantity varied from a pint and a half to rather over two pints in twenty-four hours, while liquids ingested, not reckoning that in solid food, ranged from two to three pints. The urine passed on March 12 measured 42 oz., and a specimen taken at 11 P.M. had a specific gravity of 1024, was of a deep straw colour, and when cold precipitated urates; had an acid reaction; contained neither sugar nor albumen nor phosphates in excess, and held about 276 gr. of urea for the whole quantity, calculated by Russell and West's process.

On March 13 the quantity passed was 33 oz., and a specimen obtained at 8 A.M. had a sp. gr. of 1020, did not precipitate urates, and contained 210 gr. of urea for the whole amount, calculated by the same process.

The patient's diet is of the usual mixed kind, moderate in quantity, and he takes both malt liquor and whisky, as a rule in small amount; that is, about a pint of the former and a gill of the latter *per diem*. He smokes five to nine veveys a day.

Noting his condition in March, 1888, I observed that for some months he had shown a general increase of fat formation, and this tendency does not diminish. The patient is of a cheerful disposition, and, accompanied by his brother, has travelled on the Continent and enjoyed himself, notwithstanding his almost inflexible frame.

Auscultation of lungs.—Percussion note is subnormal, but not dull. Inspiration is harsh, but when forced vesicular murmur can be heard, and best at the anterior apices. Posteriorly the chest is less resonant, there is some increase of vocal fremitus, and less vesicular murmur. A few moist sounds were detected at the left base on this examination.

His *sight, hearing, and general sensation* are normal, so far as the utility of these functions is concerned, but the ears, more closely examined, show a distinct retraction with some opacity of the membrana tympani; the hearing distance, tested by the watch, is about ½, and there is a tendency for cerumen to accumulate in the meatus in excess.

Remarks.—So general an anchylosis of joints as is presented by this case is of rare occurrence, and from the consequent interruption to much of the voluntary and purely automatic mechanism of the body, presents points of interest

both to the surgeon and physician. It may be remembered that those joints which escaped more or less completely the general stiffening were the inferior maxillary, the wrists, elbows, fingers, and left ankle,—joints, that is, in which movement would naturally take place in an invalid with greatest regularity. The anchylosis of the right ankle, and flexion of the great toe of the corresponding foot, seems to have been determined by a prolonged attack of sciatica and recumbency, during which the affected leg would be kept at rest more than the other, while the anchylosis of all the ribs at their vertebral articulations, as well as of the several vertebræ, can only be accounted for by the comparatively limited range of their normal mobility, retracted still further by protracted recumbency in a rheumatic subject.

The influence of prolonged rest, "the abuse of rest," in the production of anchylosis is of course well known, and has been demonstrated clinically, pathologically, and experimentally. Dr. Menzel, in the *Archiv für klin. Chirurgie* in 1871, corroborated Teissier and Bonnet's clinical observations on this point by experiments on dogs and rabbits, the limbs of which were encased in plaster of Paris for "periods varying from one to ten weeks" (*Syd. Soc. Retrospect*, 1871–72). The importance of maintaining by passive movement as much as possible of the natural mobility of joints in the bedridden, is established by these observations, and forms an essential part of the stimulation of metabolism by methodical and enlightened "massage."

This patient was certainly rheumatic, but one cannot overlook the fact that his articular misfortunes overtook him soon after an attack of gonorrhœa, and many of us must be familiar with those not very common but very lamentable cases of non-suppurative articular disorganisation which follow gonorrhœa in some cases, and in the presence of which the physician appears helpless, and the surgeon nurses the affected part and sighs for anchylosis, while the patient gets heartily tired of himself and both varieties of advisers.

Medically this case is chiefly interesting as showing the relative importance of the thoracic and abdominal mechanism of respiration, and in the ultimate effect of restricted respiration on the metabolism of the tissues, and the deposit of fat.

Sir Thomas Watson relates how a negro whose chest and abdomen were being modelled in plaster of Paris, all but died asphyxiated when the substance began to contract and thus impede the muscular mechanism of breathing, although air

entered the mouth of the subject freely. The present case would seem to show that, provided thoracic movement is gradually abolished, the diaphragmatic movement may form a very competent substitute for the loss of chest movement, and may be regarded as the reversal of that process in the female, whereby the pregnant woman gradually comes to use her chest more than her abdomen in breathing, and for which Nature has given her greater pliancy of the upper ribs than is the case with man. The male abdomen, on the other hand, unenfeebled by the stretching, or unrestricted by the encroachments of pregnancy, is more suited to the development of abdominal breathing in case of need, and compensates for the comparative rigidity of his upper ribs.

Practically the care of the abdomen by evacuants, the regulation of food, and the avoidance of external pressure by bedclothing, is of the first importance in the treatment of embarrassed pulmonary and cardiac cases. The negative result of faradization of the pectoral muscles, showed these to have become atrophied from disuse in this case. Notwithstanding the exaggerated action of the diaphragm and abdominal muscles, however, there remains in the present instance a notable diminution in the *expiratory capacity* of the chest. The spirometer only recorded an average of 96 cubic inches in place of 156 for a man about the same size with a normal chest but not very robust—a diminution representing a considerable lessening of aeration, the effect of which was emphasised by the sedentary life of the patient and his moderate alcoholism, although his passive existence without doubt has enabled the abdominal compensation for the loss of thoracic movement to be established, and is alone compatible with continuous comfort even now. How long and effectively the organism can struggle against such adverse circumstances is shown by the sufficiently normal secretion of urea for the case (210—276 gr. *per diem*), but that the forces inimical to life are on the way to victory is suggested by the insidious, slow, but steady increase in the deposit of fat throughout the body.

IV.—*On a case of peculiar Skin Disease, possibly a form of Lupus.* By Stephen Mackenzie, M.D. *Read October* 12, 1888.

Ellen B., æt. 35, has had one child and one miscarriage. No history of syphilis. No previous rheumatism, but within the last month the patient has had some swelling of hands and feet, with pain in the joints.

The patient has been under my observation and care for about six and a half years. I saw her in the first instance with Mr. Garman, of Bow, for an exceedingly severe attack of auditory vertigo. She subsequently came under my care at the London Hospital for this complaint, and it was whilst under treatment for the vertigo that the condition to which I wish to draw attention made its appearance. The first mention I have of it in my notes is in January, 1883, which probably is the time of its first occurrence. The disease began on the arms and remained confined to the arms (posterior surface) for about two years, when the calves of the legs became similarly affected, and for the last four years the patient has had a succession of attacks of a disease of the skin, to be presently described, practically confined to these parts. On one occasion she had some spots of the same kind in the ears, and she has had one spot in the skin of the abdomen. During the six years she has had repeated attacks, which usually occur in the autumn or winter. The eruption has nearly disappeared several times, and once entirely disappeared for some months; this was in the summer.

The patient is a robust-looking, stout woman, weighing 14 st. 9 lbs., and is of dark complexion, hair, and eyes. There is no hyperæmia of the face, she has never had chilblains, and does not suffer from cold hands and feet.

Situation of the eruption.—It is practically confined to the posterior surface of both arms and the calves of the legs. The eruption has generally preponderated on the left arm, and at the present time (July, 1888) passes a little below the elbow on the left arm on the inner side, and there is a patch on the ulnar side of the forearm just above the wrist. There are spots on the left little finger (which she says looked like a chilblain), and one on the cleft between the first and second right

recurrences taken together appear to me to negative syphilis as the cause.

3. Lupus. It will be remembered that the two marked features of the eruption are the tubercles, that disintegrate and leave scars and erythema. These appear inseparable, and to suggest the real nature of the disease.

The occurrence of tubercles that undergo necrosis, destroying the skin and leaving scars, is like what is seen in lupus.

Against lupus vulgaris, however, the age of the patient at the time of the first appearance of the disease, the symmetry, the absence of ulceration, and the subsidences of the disease appear strong arguments.

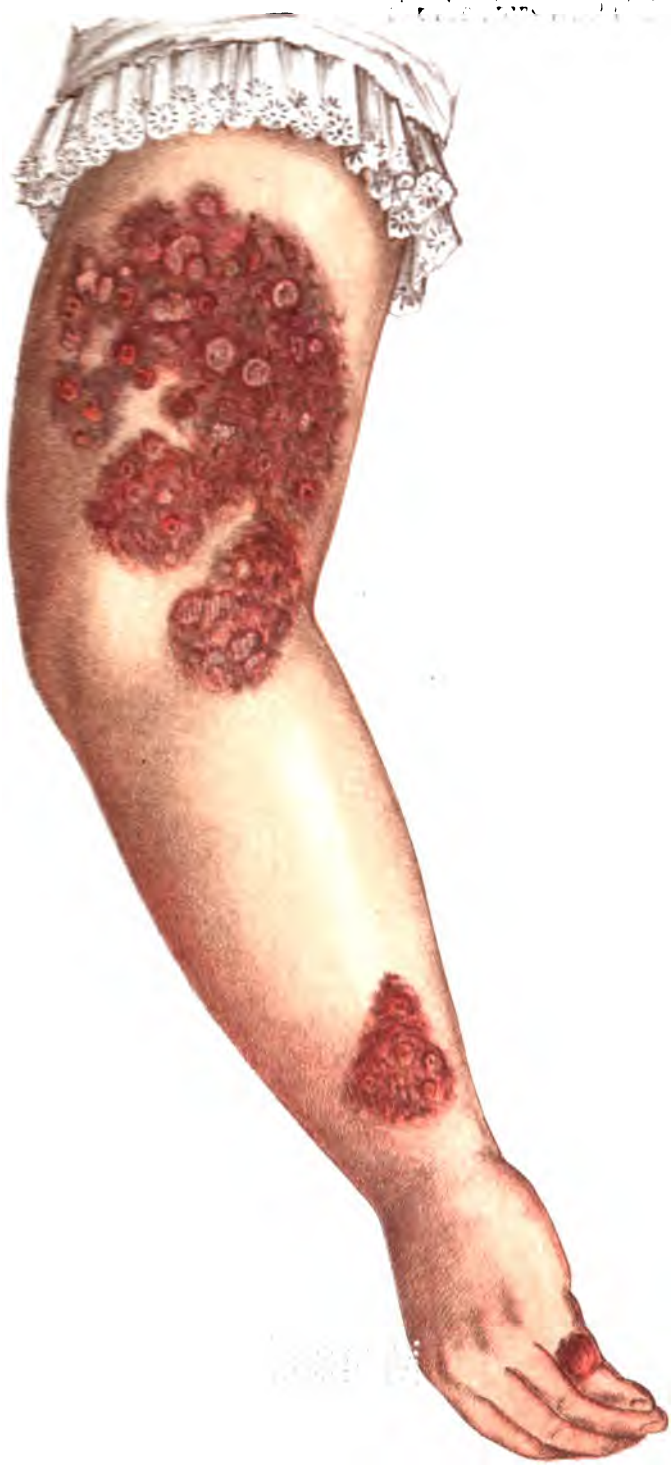
On the other hand, the age of the patient, the symmetry of the disease, the erythema, and the fact that the ears have been affected strongly suggest lupus erythematosus, while against this view the following arguments may be adduced: the tubercular and nodular character of the lesion, the absence of scales, the situation of the disease on covered parts by preference, the influence of cold, and, perhaps, the absence of that condition of tendency to chilblains that so often is found in subjects of this variety of lupus.

It thus appears that the eruption does not conform exactly to the type of either lupus vulgaris or lupus erythematosus. The destructive character of the eruption, however, suggests lupus, whilst the weight of evidence inclines to the erythematous form of lupus.

On the whole, therefore, I am inclined to regard the disease as belonging to the lupus family.

PLATE I.

To illustrate Dr. Stephen Mackenzie's case of Peculiar Skin Disease.



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V.—*A case of Empyema: loss of vision in the right eye, afterwards in both: hemiplegia: death: cerebral softening, involving especially the angular gyri and occipital lobes.* By Henry Handford, M.D. *Read October* 26, 1888.

THE following case is of interest partly on account of the association of cerebral disease with empyema,* an association which the record of other cases would incline one to look upon not as a mere coincidence, though the nature of the connection is not quite clear, and still more, as in some measure a contribution from morbid anatomy to cerebral localisation.

The patient was a delicate young woman, æt. 18, married two years. For the history before her admission into the Nottingham General Hospital I am indebted to Dr. Pegler, of Stonebroom, under whose care she had been.

In February, 1887, she complained of much pain in the bowels, being at that time in the fifth month of pregnancy. A few days later the pain moved to the left side of the chest. Dulness soon appeared, and early in March she was tapped and about two pints of pus were evacuated. No drainage-tube was used as the patient could not be well cared for at home. A little later she was delivered of a stillborn seven months' child, and six weeks afterwards was admitted under my care into the hospital. On June 11, three days after her admission, my colleague Mr. Wright at my request made an incision in the fifth space in the posterior axillary line. Between one and two pints of pus escaped, a drainage-tube was inserted and antiseptic absorbent dressings were applied. During the whole illness the chest was not washed out. The patient improved considerably; the discharge of pus gradually ceased, the tube was withdrawn and the wound soundly healed. But soon the temperature began to rise again, and became hectic, and the cough returned. On July 17 the wound was opened up afresh and a larger drainage-tube inserted.

* Fagge, *Practice of Medicine*, vol. i, p. 456. Fagge mentions twelve cases of cerebral abscess associated with lung disease, which in three instances was pleurisy.

July 23.—Discharge continues abundant and sweet, temperature normal. All cough ceased entirely from the date of the last opening of the chest and insertion of the drainage-tube. The pus gravitates to the bottom of the pleura. Some of it remains and does not escape till the patient leans over on the side.

July 29.—Patient had a rigor this morning, which lasted about three quarters of an hour. Temperature when the rigor commenced 99·8°, when it ceased 101·8°. An hour later 103·8°, two hours later 103°.

I was out of town during the whole of August, and the notes for that period are copied from the report in the Case-book, which was made by the house physician, Dr. Kingdon, and his assistant, Dr. Russell.

August 1.—Temperature in the evening 104·8°, subnormal next morning.

August 3.—Temperature in the evening 101·4°.

August 8.—Temperature not above 100° since the 3rd inst. Very slight discharge scarcely soiling the dressing.

August 13.—Tube left out, wound nearly healed. At this time she complained of pain and aching in the right eye without any apparent external cause.

August 14.—The patient complained of blindness in the right eye. She could trace the movement of a hand before the face but not count fingers.

August 16.—Dr. Kingdon examined the fundus of the eye with the ophthalmoscope: the retina was pale, and there were doubtful signs of very slight neuro-retinitis.

September 5.—On my return I found that there was total blindness of the right eye. The patient could not tell the position of the window or perceive the light from the mirror of the ophthalmoscope when thrown into the eye. The pupil was dilated and insensible to light, but moved in sympathy with the left eye when that remained uncovered. The ophthalmoscopic appearances, which Dr. Kingdon informed me had not materially changed from what they were a fortnight ago, were as follows:—Margins of the disc not sharply defined; retinal arteries rather below average size; veins not distended; very slight effusion of lymph along the lines of the vessels, and radiating slightly in striæ from the disc; yellow spot visible and normal in appearance; rest of retina pale and bluish. No hæmorrhages. The left eye presented similar changes, but to a slighter degree. Vision of left eye to-day fairly good; field of vision not contracted.

From the foregoing description it will be evident that the retinal changes were not of themselves sufficient to account for the loss of vision. The diminution in size of the retinal arteries and the signs of neuro-retinitis were too slight to warrant the diagnosis of embolism of the central artery of the retina. The loss of vision was attributed to a central cause, to an affection of the cerebral visual centres, but whether the affection was functional (ideal or hysterical) or organic was not then apparent, for coincident with the loss of vision the patient developed a remarkable emotional condition, so that a functional affection was suspected.

September 8.—Some dimness of vision was complained of in the left eye.

September 19.—The left eye soon began to improve. Slight perception of light has also returned to the right eye (?). She complains, however, of loss of power in the right side, but when examined can move the right arm and leg freely but with less force than the left. She also says she has some difficulty in speaking, and sometimes answers yes to every kind of question.

A few days later she was taken home into Derbyshire by her friends. Shortly afterwards she had definite right hemiplegia, and could only say "yes" and "no," and that at random. There appears to have been more or less of "word-deafness." She also completely lost the sense of vision in both eyes.

Dr. Pegler also informed me that "she had an idiotic expression and seemed to be losing her mind." She had occasional attacks of excitement, gradually lost ground and died about a fortnight later. Through the kindness of Dr. Pegler I was enabled to go over and make a post-mortem examination.

The left pleural cavity contained about a pint of pus. The left lung was collapsed and reduced to a layer of tough indurated tissue about three quarters of an inch thick, lying upon the left side of the vertebræ. The right lung was but little affected. There were no abscesses in the liver or kidneys, and no disease, valvular or other, of the heart.

The brain was removed entire, and there was no sign of meningitis over the hemispheres or at the base. The membranes stripped readily. On the left side the posterior parts of the first and second frontal, and the greater part of the ascending frontal and parietal convolutions were wasted and soft to the touch, and over the area shaded in the diagram,

and comprising part of the ascending parietal, the supramarginal and angular convolutions, and part of occipital lobe there was indistinct fluctuation. A horizontal incision was made and the white matter was found to be diffluent, but there was no pus. On the right side the ascending parietal and angular gyri felt soft, and the first and second temporo-sphenoidal less so. The cerebellum, medulla, and basal ganglia were firm to the touch and appeared unaffected, and on subsequently making sections of the hardened brain no abnormality was found in them.

The brain was kept in spirit for forty-eight hours and then four horizontal sections were made on each side; and the sections were further completely hardened in spirit and then tracings taken from them on glass. In the recent sections the softened areas were semi-diffluent and gelatinous, but nowhere was there distinct pus, or what could fairly be called an abscess.

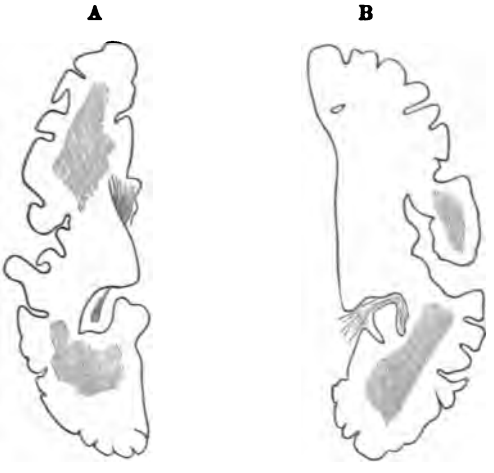
On the right the first section was made about three quarters of an inch below the vertex and the subsequent ones at about equal intervals. On the left side the first section was made rather lower, about 1¼ inches from the vertex.

The softening chiefly affected the white matter, which was reduced to a pulpy atheromatous condition, but was not altered in colour. In places it appeared somewhat gelatinous. The grey matter was much less affected, the parts that derived their nutrition from the blood-vessels of the pia-mater being ittle, if at all, altered. I should say that no disease of the vessels, no aneurisms or infarctions could be discovered though searched for. On microscopic examination of sections of the softened areas the copious infiltration with leucocytes was the most noticeable feature. The greater part of the nervous elements had disappeared, as also had much of the "granular substance" of Schwalbe, and there remained only a dense network of fine fibrils of neuroglia, newly formed and old. There were but few compound granular corpuscles, the fatty degenerated tissue-elements having in great part already disappeared. The softened areas were surrounded by a zone of dense cellular infiltration which extended into the otherwise unaltered brain-substance.

The distribution of the softening may be summarised thus:—The softening was more widely distributed and more intense in degree on the left than on the right. Since the softening, as already stated, affected the white matter much more than the grey, it was difficult (especially after hardening

in spirit, and without that the sections would not hold together) to associate the softening in the sections strictly with

FIG. 2.



Horizontal sections of cerebrum traced on glass, transferred, and reduced. The shading represents the areas of softening.
A. Upper surface of lowest section of left hemisphere.
B. Lower surface of third section of right hemisphere.

the different convolutions. Nevertheless, it will be seen that on the left it affected chiefly the occipital lobe and the posterior part of the parietal in the upper sections, and the frontal and the posterior part of the parietal in the lower; that is to say, approximately, the first and second occipital convolutions, the angular, supramarginal, part of the superior parietal, the middle of the ascending parietal, the posterior part of the first temporo-sphenoidal, the second and third frontal, and the middle and lower parts of the ascending frontal.

On the right the softening was confined to the occipital and parietal lobes, and affected chiefly the supramarginal, angular, first, second, and third occipital, and part of the middle of the ascending parietal.

It is interesting to note that loss of sight was the first symptom of brain affection, preceding the earliest symptoms of aphasia and hemiplegia by about five weeks. Further, there was nothing of the nature of hemiopia, there being total

loss of the perception of light in the right eye while the left remained, so far as could be ascertained, unaffected. The slight recovery of vision in the right eye, and its subsequent loss when the left eye became affected lends some support to the view that each angular gyrus* is in relation with both eyes.

That the loss of vision was due to the cerebral lesion is, I think, beyond doubt. Apart from the ophthalmoscopic appearances of the fundus, embolism of the central artery of the retina on both sides, without any other appearance of embolism in the body, and in the absence of cardiac disease, is in the highest degree improbable. The absence of any advanced retinal disease was shown by ophthalmoscopic examination, and the absence of any naked-eye change in the optic tracts at the post-mortem examination.

The origin of the cerebral lesion is not quite plain. It resembled what has been called "ischæmic softening," but no sign of embolism in the vessels of the brain or elsewhere could be found. To what extent it was septic and a manifestation of pyæmia I cannot say. The softening was odourless and not distinctly purulent, and there were no pyæmic abscesses in any of the viscera.

How far it may be attributed to general failure of tissue nutrition and anæmia (for the patient shortly before the supervention of the hemiplegia, but after the loss of sight in the right eye, had a smart hæmorrhage from a wounded intercostal artery) I am not prepared to say.

* The above was written before I had read Schaefer's "Experiments on Special-sense Localisation in the Cortex Cerebri of the Monkey," in *Brain*, January, 1888, where reasons are given for localising the cortical centre for sight in the occipital lobe, and for supposing that the angular gyrus and the first temporo-sphenoidal convolution have but little to do with it.

DESCRIPTION OF PLATE II.

Dr. Handford's case of Cerebral Softening in a case of Empyema.

FIG. 1.—Multiple cerebral softening, showing leucocytes and large cells (which have probably fed on the débris), and strongly-marked meshwork of neuroglia. × 800.

FIG. 2.—Ditto, ditto. × 400.

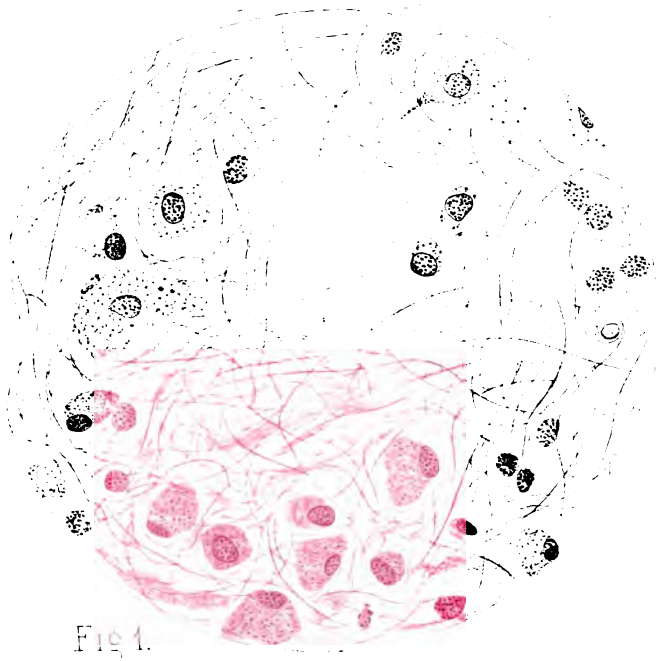
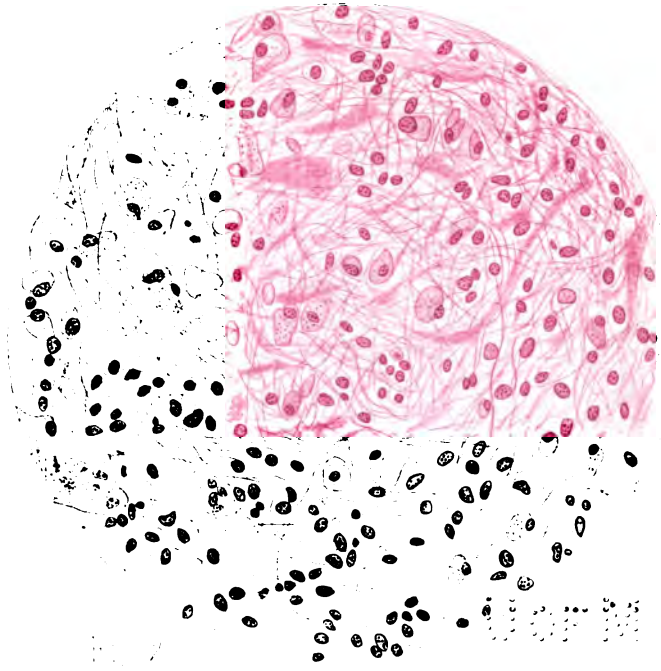


Fig 1.



VI.—*A second report on "Xerostomia" or "Dry Mouth," with an additional case.* By JONATHAN HUTCHINSON, F.R.S., LL.D. *Read October* 26, 1888.

ABOUT two years ago I brought before the Neurological Society a patient in whom for more than a year previously the mouth had been absolutely dry. In connection with a paper by Dr. Hadden, reporting a similar case, and at his request, I last year communicated the particulars of my case to this Society, and they were published in our last volume of *Transactions*. I have nothing more to add to what was then recorded, excepting that, another year having passed by, the patient still continues in the same distressing state, and that her general health does not suffer. I have, however, now to record another precisely similar case, and avail myself of the opportunity which it affords of inquiring whether, since attention has been drawn to this curious malady, other members of the Society have had experience respecting it.

My second patient is a lady of about 50, in good general health, but whose life has been full of trouble. She has been a widow for ten years and has recently ceased to menstruate. The troubles referred to occurred in the earlier periods of life, and no nerve shock or other severe mental distress coincided with the onset of the dry mouth. She has borne no children. Her marriage was an unhappy one and she lived but a very short time with her husband. About the age of twenty-three she had an iridectomy done by Sir William Bowman for closed pupil, the result, as she believes, of inflammation after a flash of lightning in her face. There is no history of gout, and no definite reason for suspecting syphilis. She is the subject of severe acne rosacea, and has a florid face. The dryness of her mouth came on rather gradually and began nearly four years ago. During the last three the whole mouth, tongue, lips, and cheeks have been, as they now are, as dry almost as it is possible to imagine them. Her tongue, which is much fissured, shows not the slightest trace of moisture, and she can with difficulty speak so as to be understood. The palate is dry and covered with inspissated mucus. The pharynx also is dry. In spite of the long continuance of this condition,

there is no loss of appetite or difficulty of digestion, and she maintains fair strength. She perspires easily, and being, as she says, very nervous, her whole forehead was bedewed with sweat during her interview with me. She believes that there is no difficulty as to the flow of tears. Not the slightest benefit has been obtained from treatment, but she finds borax and glycerine of some little use in abating the discomfort.

The close similarity of this case to the others is indeed very remarkable. It is quite clear that we have to deal with a well-individualised malady, or rather symptom.

I may perhaps be permitted to briefly recapitulate the other cases.

1. My first case. A widow, æt. 65. Duration of the condition three years. Health good. Still unrelieved.

2. Dr. Hadden's case. A widow, æt. 65. Duration of the condition at time of report seven months. Health good.

3. Case by Dr. Rowlands, quoted by Dr. Hadden. A lady, æt. 60. Duration of the condition ten years. Health good. Still unrelieved.

4. My second case. A widow, æt. 50. Duration of the condition four years. Health good. Still unrelieved.

5. An anonymous case quoted by Dr. Hadden, *Med. Times and Gaz.*, November 2, 1868.* A lady, æt. 77. Duration eight months. Good health.

6. A case mentioned to me by Dr. Barlow. The patient, an old lady, suffered from dry mouth during the last few years of her life. The cause of her death was not connected with it.

These six cases constitute all the examples of persisting xerostomia with which I am acquainted. Most of us have no

* "Nov. 21, 1868.—Suppression of Saliva. To the Editor of the *Medical Times and Gazette*.—Sir,—I should feel obliged if you would give or procure me some advice in a case of suppressed salivary secretion. The patient, a quaint old French lady of 77, states that eight months ago she suffered about three weeks from some febrile affection apparently, and has since then been suffering from dryness and soreness of the tongue. On examination the mouth, uvula, tonsils, and pharynx appear quite healthy, but the mucous membrane is perfectly dry, like pink satin, that on the tongue with longitudinal rugæ. Salt and sugar remain undissolved and quite tasteless on the tongue, the former causing slight uneasiness. The patient sips cold tea to relieve the feeling of dryness and the clinging together of gums, cheeks, and tongue. The teeth are all gone. There is no discoverable opening of the parotid ducts. Under the tongue are two papillæ where the sublingual ducts might be looked for, but they appear impervious. There does not seem to be any marked ill-effect on health. The old lady is wonderfully well and cheery. Is there anything to be done?—I am, &c.,
"A. G. B."

My friend Dr. A. G. Bartley, of Stoke Newington, authorises me to state that he was the anonymous writer of the above.

doubt seen partial and ill-characterised cases, but in all these the condition was definite and lasting. In one the duration was as long as ten years, in two it was four, and in one three. It is significant that all the cases were in women past middle life, four were upwards of sixty. Three, at least, were widows. In two the condition set in suddenly, in the others it was gradual. In none did it appear to be premonitory of other nervous derangements, for all the patients remained, so far as the nervous system was concerned, in good health. The inconvenience entailed in the patients by the condition is great, almost indeed intolerable, but beyond this nothing follows. It might seem, so far as these cases go, that we have attached too much importance to the insalivation of the food as an aid to digestion, since it would appear that it may be wholly dispensed with without failure of health.

VII.—*A case of Dermoid Cyst of the Tongue.* By T. Beaufoy Green. Introduced by Christopher Heath. *Read October* 26, 1888.

THE subject of this paper is a man æt. 31. When ten years old and playing with some companions, one of them accused him of having some toffee in his mouth. He opened his mouth to prove that this was not so, and his companion pointed out a lump the size of a small bird's egg under his tongue. He had not noticed this before. From this time it grew slowly, until in a few years it was the size of a hen's egg. Then it remained stationary in size for some years, until about eight years ago, *i. e.* when he was twenty-two years old, he noticed that its growth appeared to receive a fresh start, and each year since then he has been aware of a further increase in size, until now his mouth is always open, he can only with difficulty close his lips, while it is quite impossible for him to make his incisors meet. From its size and position it produced pressure effects on the larynx and trachea, viz. an inspiratory stridor with huskiness and sometimes aphonia. It gave rise to such thickness of speech as to make the man scarcely intelligible to anyone but his wife. On this account chiefly, and because he was convinced that it increased year by year, he consented to have it removed. He states that some years ago he showed it at the out-patient department, Newcastle-on-Tyne Infirmary, that it was pricked, when some cheesy-looking matter came away, and that he has never had any other treatment for it.

On looking into his mouth, nothing can be seen but the mucous membrane of the floor pushed up almost to the roof by some rounded body underneath, while far back, behind the junction of the hard and soft palates, can be seen the pointed tip of his very small tongue, but only on getting him to put it out as far as possible. The veins of the mucous membrane spread over the tumour are unnaturally dilated, so as to give the impression that they are more numerous than usual, and the membrane itself seems unduly thick, and looks slightly œdematous, but is freely movable over the tumour. The space between the chin and hyoid is unduly bulged out, and a sense of deep fluctuation is apparent on palpating with two

fingers of one hand in the mouth and two of the other outside in front of the hyoid.

Measurements made were necessarily inexact, but it seemed that the tumour was ovoid in shape, about 3 in. long by 1½ in. broad, its longest diameter being from the root of the upper incisors to below the hyoid, where it bulged backwards, pressing over the larynx. I regret that after removal I did not compare the real measurements with those estimated beforehand, but as the total weight of cyst and contents was over 3 oz. avoirdupois, I think the difference cannot have been great. It was symmetrically disposed between the genio-hyoglossi.

Operation.—Immediately before the operation the patient was shaved, and while being anæsthetised the chin and throat were thoroughly rubbed with carbolic oil—1 in 20. There was some trouble from asphyxia, on account of the size and weight of the tumour pressing back on the epiglottis; indeed, the tongue was pressed right back, so that its tip was directed down the gullet. It was with some difficulty hooked up with the finger and caught with a vulsellum. Two pieces of stout silk were then passed through it, and Dr. Archer Taylor kindly took charge of it, and had frequent occasion to pull with considerable force in order to allow suspended respiration to proceed. I mention this merely as a warning to those younger surgeons who live in the country, and who like myself have had but small experience of operations of this kind, and who on referring to the ordinary text-books for guidance have to be content with some such directions as that "the tumour should be dissected out." I am indebted to Mr. A. E. Barker for his description of a case of his own in the *Transactions* of this Society, and in passing I may say that, but for the fact there recorded, viz. that Mr. Barker has only been able to collect sixteen cases of dermoid cyst of the tongue, and the thought that a seventeenth may be a welcome addition to so small a list, I should not have ventured to trouble the Society with this report. On another occasion of the kind I should put a stout cord through the tongue before anæsthesia is complete. As the whole space from the symphysis menti to the hyoid bone measured only 1½ in., it was impossible to get an incision of greater extent, but this was carried rapidly down between the genio-hyodei and genio-hyoglossi until the whitish sac of the tumour was seen and felt. The fingers and handle of the scalpel were now used to separate the tumour from the loose tissue with which it was

surrounded. There were several slight adhesions broken down by these means, but deep towards the dorsum of the tongue adhesions were more extensive and tough. In order to overcome these I endeavoured to draw forward the tumour with my fingers and the handle of scalpel, but the limited extent of the incision rendered this impossible, so I seized the sac with vulsella. Very little traction, however, was sufficient to tear a piece out of the sac wall, which being tense from continual pressure of the tongue kept tightly hauled up by the cord, allowed a considerable quantity of white caseous material to come out into the wound. As everything now done tended to squeeze more material out of the sac, I determined to evacuate its contents and dissect it out. Accordingly, with two fingers of the left hand in the mouth, and thumb and finger opposing each other below the chin, one on either side of the middle line, I soon succeeded in relieving the sac of almost all its contents; then taking hold of its walls with broad-bladed Wells' forceps and pulling, using at the same time the fingers and handle of the scalpel to separate it from its surroundings, and with an occasional snip from the scissors, it came away complete but for the piece torn out by the vulsellum. There was no bleeding of any importance. One small sprouting artery was ligatured, the ends cut short and left in, and several more twisted. There was a good deal of general oozing into the large cavity left, and one finger introduced into the cavity seemed to be separated only by the thickness of perhaps three or four sheets of blotting paper from another finger placed far back on the dorsum of the tongue. The cavity was now freely sponged out with carbolic lotion (1 in 40) and a good many pieces of caseous material came away, but after no more could be found, and all oozing had ceased, the outside wound was closed with three silver sutures and a drain-tube inserted in the lower angle. The parts were then freely dusted with iodoform and covered with sal-alembroth wool and a four-tailed bandage. By evening there was a good deal of serous oozing, and the wound was dressed again. Temp. 99° F., but on following morning 98·5° F. Second day: In afternoon temperature was 100·4° F., and remained hovering between that and 98° until the fifth day, maintaining a free discharge all the time. On the sixth day some small pieces of caseous material came away through the tube, and from that time the discharge ceased, and the temperature came down to normal. On the eighth day the tube was removed, and by the eleventh day the whole wound was

completely healed. The tongue, which at first was much swollen and sore, was well by the eleventh day, and on the twelfth day after the operation the patient left the hospital, able to speak so that anyone could understand him, and to protrude his tongue to half its extent. He was quite free from pain, but there was still some swelling in the floor of his mouth, the veins of which were now a good deal smaller than before the operation. Everything before, during, and after the operation was done with most strict regard to asepsis, save that the spray was not used. Food was entirely liquid for the first week, and given by mouth. Ice was continually sucked, and a mouth-wash of borax and carbolic frequently used.

About a fortnight after leaving the hospital the patient came to see me with the floor of his mouth bulged up almost as high as before the operation. There was a slight pin-hole where the tube had been, and a thin discharge, with a good deal of heat and redness.

I enlarged the opening and directed him to poultice frequently with linseed, and to syringe out the wound with warm carbolic lotion (1 in 30) immediately before putting on each fresh poultice. In two days several more small pieces of cyst contents came away with inodorous purulent discharge. The wound healed up immediately, so that next day there was hardly any appearance of its having been so recently open, and the day after it was completely closed. A few days after this the man resumed his work as a platelayer, so that I have not seen him, but I hear from his wife that all swelling inside and outside the mouth has completely disappeared, that he can eat, speak, and breathe without difficulty, and that he never has the huskiness and aphonia as formerly.

I have no doubt that the rupture of the cyst, with consequent escape of contents into the wound, was the cause of rise of temperature and the delay in recovery, and in future should such a case occur in my practice I shall make a clean incision through the cyst wall, evacuate the contents cleanly, then dissect out the cyst, or, if there be more room than in the case just recited, then, following Mr. Barker's plan, I should endeavour to remove the cyst whole. In conclusion, I feel that I am much indebted to aseptic precautions for the favorable result, for damage to muscles by sponges, and subsequent irritation of retained portions of cyst contents would most likely have led to a much more extended and acute inflammation had no such measures been taken.

VIII.—*A case of Supra-pubic Lithotomy for encysted calculus of large size: successful removal by means of the chisel and mallet.* By E. Hurry Fenwick. *Read November* 9, 1888.

SMALL encysted stones are not uncommon,* and their removal can usually be effected with comparative ease through the perineal route, but the following case, for which I am indebted to Dr. Hine, of Leytonstone, possesses certain features of clinical interest and importance which have induced me to lay it before this Society.

C. D., æt. 44, married. The patient states that he was quite healthy up to 1880, when he noticed a white sediment appear in his urine. At the same time he experienced pain along the urethra on micturition. He describes his urine as gradually thickening so that it could be turned bodily out of the pot. It was of a dark brownish colour and very offensive. He passed it without difficulty or straining.

The muco-pus eventually became replaced by a white sediment, which on being examined microscopically was pronounced to be composed of triple phosphatic crystals. This sediment gradually took the form of a fine white sand. By degrees the particles increased in size until they formed pea-sized stones.† One of these latter got impacted in the penile urethra, and was broken and removed by the patient himself by means of a pair of fine pliers. Under the continuous exhibition of acid medicines, however, his urine finally cleared and he remained apparently free from any further trouble for three years. In 1887 he began to experience a sharp pain in the crutch, which was increased by walking. There was no pain in micturition, but the appearance of the urine varied. Sometimes it was clear, at other times it contained much floating material and sediment. In August, 1887, he returned to Dr. Hine complaining of pain in the perineum and all along the urethra, during micturition. There was no frequency. He did not rise at night to urinate.

* Cadge, *Path. Trans.*, vol. xii, pp. 137–8. "In all cases of encysted calculus that I have examined (and they have been numerous) the stone in its cyst has been found on the outside of the muscular coat, communicating with the interior by a narrow opening."

† A collection of these (made by the patient) was shown, in order to demonstrate the change in size from the finest white sand to the pea-sized stones.

Towards October, 1887, frequency of micturition both in the day and at night appeared. In January, 1888, he found himself forced to strain in order to make water. The pain increased, the urine became decidedly murky and deposited a good deal of pus. He was sounded, but no stone was detected. Vesical irrigation was performed, but the procedure increased rather than relieved his trouble, and large pieces of mucous membrane were said to have been passed after the washing out. He came under my care on June 2 of this year. He was then suffering from constant supra-pubic and perineal pain, also an occasional pain at the glans penis. His stream of water had but little force in it. It never stopped abruptly. There had been no blood observed. At the end of micturition he used to be seized with a violent fit of straining, but there was no fæcal incontinence or rectal prolapse. His urine was alkaline; it contained pus and phosphatic débris. On sounding him I found a small soft stone far back in the bladder, and on June 7 I introduced a lithotrite and attempted to crush it. I found myself unable to open the instrument more than an inch or to insinuate the female blade between the stone and the posterior wall of the bladder. On examining *per rectum* to ascertain the cause of the difficulty I found a large post-prostatic stony mass 2½ inches by 2½ inches in length and breadth, pressing back into and partially occluding the rectum. I had no difficulty in recognising this stony mass as a calculus encysted behind the prostate, for a similar hard mass was found in one of my out-patients, from whom my colleague, Mr. Rivington, removed supra-pubically a calculus of 1½ lbs. in weight.*

I postponed the operation to obtain permission to perform lithotomy. Although I had used no force whatever with the lithotrite, yet a very grave reaction with collapse ensued. The patient recovered quickly, however, and on June 12, a week after, I performed supra-pubic cystotomy in the usual way, with this exception, that instead of injecting boracic acid solution into the bladder I distended it with half a pint of warm oil. For in the operation of Mr. Rivington's to which I have just alluded, and in which I had the privilege of assisting, I had noticed that the fragments and débris of the crushed stone adhered with the greatest tenacity, both in piece and in powder, to the mucous membrane of the bladder and to the surfaces of the wound. This I hoped the oil would prevent, and I was not disappointed. On introducing my finger into

* W. Rivington, *Transactions* of the Royal Medical and Chirurgical Society, 1886, vol. lxix, p. 370.

the bladder a rough pointed stone was felt *fixed* in the left lower angle of the viscus. Slight pressure snapped it from its stalk, and on extraction it was found to be conical (obtruncated). It weighed 1½ oz. On reintroducing the finger to ascertain the cause for its fixation, the sharp, toothlike projection of its broken neck was detected springing from the narrow opening of a diverticulum placed at the orifice of the left ureter. The opening tightly gripped the stalk or neck of the stone. It was therefore cautiously dilated by means of the forefinger until its size was equal to a two-shilling or half-crown piece. The forefinger now found itself inside a large sac or diverticulum which was almost filled by a smooth oval stone.

[A clay model of the bladder and diverticulum with the stone *in situ* was shown, modelled after Specimen 2423, St. Bartholomew's Museum.]

The thin-walled sac was felt to be bounded in front by the prostate, above by the pushed-up pouch of peritoneum in the recto-vesical space, behind by the rectum. It extended more to the right than to the left. It was obviously dangerous to further enlarge its orifice for fear of tearing the bladder wall and thus of opening up the peritoneal cavity. The stone was far too large to be extracted whole, and it was so situated as to be inaccessible to the lithotrite or crushing forceps. Remembering Mr. Rivington's expedient,* I took a broad osteotomy chisel, passed it through the supra-pubic wound, and guided it through the orifice of the sac until its cutting edge rested on the stone. Then getting elastic counter-pressure in the rectum from a Petersen's bag, I proceeded to cut through the calculus in one diameter by repeated blows of a heavy mallet. Working cautiously as I felt the resistance lessen, I was able by this means to split the calculus in one diameter without cutting into the saccular wall. I now rotated the bisected calculus by means of my forefinger so as to bring a fresh surface of one of the halves immediately under the mouth of the sac. This was cut through in a similar way. By taking each half in turn and repeating the proceeding I was able to split the stone into sections sufficiently small to allow of their extraction through the narrow mouth of the diverticulum. These fragments were subsequently weighed, and without counting what was lost in the washings they amounted to 4½ oz. The bladder was washed out, a large drainage-tube was passed through the supra-pubic wound to the bottom of the diverticulum. A boutonnière afforded counter drainage.

* Supra cit.

The subsequent history of the case is without interest. There was no reaction, nor any rise of temperature. The urine rapidly became clear. On July 6 the suprapubic wound healed (in little over three weeks). On July 17 the tube has removed from the perineum, and the supra-pubic wound re-opened the same night; catheterism caused its final closure two days after. The patient left for the country in six weeks after the operation. He is here this evening to show himself and the small, supple, and strong supra-pubic scar which alone remains of the operation.

Description of stone.—The fragments were pieced together with plaster of Paris, (fig. 3). The stone is dumb-bell in

FIG. 3.

shape, and composed of phosphate of lime. The vesical and smaller part weighed 1½ oz., the diverticular and larger portion 4½ oz. The circumference of the former was 5 inches and of the latter 7 inches along their broadest parts.

IX.—*A case of Encysted Calculus successfully removed by supra-pubic lithotomy.* By G. Buckston Browne. *Read November* 9, 1888.

THE following case is of interest because it illustrates a condition of vesical calculus in which lithotrity is absolutely of no avail, and where any operation by the knife from the perineum is fraught with mechanical difficulties which may easily prove insurmountable, while all the difficulties vanish if the bladder is opened above the pubes.

I saw Mr. W. O. for the first time last June. He was nearly sixty-eight years old, and was sent to me by Dr. Cronin, who was present at the operation subsequently performed. The patient had submitted to the operation of lithotrity five times in less than two years. The first operation was in August, 1886, the last in April, 1888. The earlier operations had given temporary relief from urgent bladder symptoms, and the last one had not been followed by any amelioration of his condition. When I first saw him he was in great distress. He could pass no urine except by catheter, which he was obliged to use every hour night and day. Before each catheterism he had the most intense vesical spasm, and after withdrawal of the instrument there was great pain. The motion of a carriage caused much uneasiness and the urine was loaded with blood-stained mucus.

On sounding the bladder, a stone was felt lying apparently in the floor of the neck of the bladder, and it was found very easy to pass over this stone, or rather stony surface, into the cavity of the bladder which lay beyond, without the sound encountering any calculous matter. The vesical cavity was entirely free from stone. The finger in the rectum found only a moderately enlarged prostate,—nothing else was observed.

Taking into consideration the history of the case, the feebleness of the patient, and his great suffering, I determined to make no attempt at lithotrity, but proposed to open the bladder supra-pubically, remove the stone, and hoped to cure the cystitis by prolonged drainage from the wound.

On July 3 Mr. Charles Moss gave ether, and having gently filled the bladder with a carbolised solution, that organ was raised well above the pubes by the introduction of the usual

rectal bag. There was nothing to note about the operation until the finger entered the bladder, when it immediately encountered the stone, lying directly under the vesical opening. The stony surface with which the finger came in contact was level with the surrounding tissues, like half an egg in an egg-cup, and it was evidently a stone firmly embedded in the floor of the bladder, immediately behind the prostate. The calculus was lifted or prised out by a long and narrow scoop. The finger then passed into the cavity, which as the patient lay, went downwards and forwards towards the rectum, and was only separated by a very thin septum from the right forefinger, passed into the rectum well beyond the prostate.

The stone was apparently phosphatic throughout, and weighed a little over a quarter of an ounce.

The after-history was fortunately uneventful. On July 24, three weeks after the operation, the wound was healed, and the patient walked about his rooms. He left my care on August 7, able to hold his urine five hours, suffering no pain, and in all respects well and hearty.

Had this paper been read at the last meeting of this Society there would have been nothing else to say, but just a fortnight ago the patient called, saying that for two months he had been entirely free from pain; he now, however, complained that there was a return of vesical spasm, and on sounding the bladder a small phosphatic concretion was found. He was placed under ether, and the concretion seized with a lithotrite and crushed. Before the instrument was withdrawn, the patient coughed violently, and immediately no more calculous material could be felt, although I knew some must be there. The right forefinger was therefore passed into the rectum and the floor of the bladder well pressed up. After this manœuvre the rest of the stone was readily found, crushed, and washed out. The débris weighed 30 gr. The patient went home in a few days able to retain his urine four hours, entirely free from vesical spasm, and with clear urine, and I have since heard from him that he is quite well.

X.—*A case of Paralytic Rabies in man, with remarks.*

By J. S. Bristowe, M.D., F.R.S., and Victor Horsley, B.S., F.R.S. *Read November* 9, 1888.

THE following case is one of special interest, since the patient, who was bitten by a rabid cat and then treated by M. Pasteur, finally succumbed to hydrophobia of the extremely paralytic form. Indeed, so marked were the symptoms of paralysis that for some time it appeared doubtful whether the malady from which he was suffering was not the acute ascending paralysis of Landry rather than rabies. Moreover, a little interest attaches to the case in that the patient being treated by what M. Pasteur called "la methode intensive," or as we may call it, the intensive method, it was suggested by M. Peter and others that the patient died of the inoculations which were administered to protect him from the virus of the cat.

The history of the case is as follows: On September 4, 1886, Joseph G., of very intemperate habits, was bitten deeply in several places in the hand by a rabid cat. The wounds were at once washed with cold water and cauterised with pure phenol. Seven hours later the patient was taken to St. Thomas's Hospital, placed under chloroform, the wounds excised, and those thus freshly made treated with carbolic acid. A few hours later he left for Paris, and was placed under M. Pasteur's care. He received the following injections of protective material:

September 5th, cord dried 14 days; 6th, 13; 7th, 12; 8th, 11 and 10; 9th, 9 and 8; 10th, 7 and 6; 11th, 5; 12th, 4; 13th, 3; 14th, 2; (15th and 16th, absent; fell into Seine, &c.); 17th, 1; 18th, 4; 19th, 3; 20th, ill; 21st, 2; 22nd, 1; 28th, 3; 29th, 2; 30th, 1. He returned to England on October 10, 1886.

There are one or two important facts to be remarked concerning his life during his stay in Paris, since it is very evident from experiments which Mr. Dowdeswell and one of us (Victor Horsley) have made, that both drugs and unfavorable physical conditions have a great effect in precipitating the fatal issue in this malady.

During the treatment in Paris he was intoxicated every day.

He was once greatly chilled and nearly drowned by falling into the Seine in an intoxicated condition.

Finally, in returning home in crossing the Channel he again got wet through and very severely chilled, shivering for about the last four or five hours of his journey. From the day of his return he developed certain symptoms, detailed as follows:

October 11, 1886.—He returned to work, having come from Paris the previous day, but he did not feel well.

October 12.—Same condition.

October 13.—Same condition, but during the night of this day he was in considerable pain, which was referred to the abdomen.

October 14.—One of us (Victor Horsley) saw him at 10 A.M. The pulse, temperature, respirations were all normal. He complained of pain in the whole abdomen, but especially over the cæcal region. He took food readily. He was ordered turpentine stupes and liquor morphiæ, the diagnosis at the time being typhlitis or perityphlitis due to the severe chill which he received on his journey.

October 15.—He was distinctly better.

October 16.—He came to the Brown Institution for his wages, but was evidently very ill, and that day he could not hold himself upright on account of pain and stiffness in the back.

October 17.—He was worse, and was said to have vomited some bloody fluid, but this was not certain. He was then seen by Dr. Stocks, of Wandsworth Road, who diagnosed lumbago, and ordered bromide of potassium, purgatives, &c. Urine, examined by Dr. Stocks, contained no albumen or sugar, but a large excess of urates.

October 18.—One of us (Victor Horsley) saw him again; pulse 85, temp. 99°, respiration a little hurried and suspirious, expiration catchy. He complained of a severe headache, stated that he had vomited several times in the night, and that the medicine (bromide of potassium) nauseated him. He for the first time complained of inability to move his legs, but when urged to try he flexed all the joints through about 45 degrees. Although there was no affection of sensation in the limbs, either objective or subjective, he said that he had "cramping feelings in the hips." Finally he was said to have had a choking feeling in the throat, but he could swallow perfectly well.

October 19.—Seen again (Victor Horsley) 9.30 A.M. Evidently very ill; he lay supine, and there was complete motor

paralysis of the lower limbs and trunk, and almost complete motor paralysis of the upper limbs; thus he could only move his hands a little about the face in a curiously stiff manner, and while doing this clonic tremor was noted in the right hand. The face was remarkably expressionless, though the lips and eyelids could be moved. The eyes were prominent, and the movements of the eyeballs very imperfect,* but apparently still in conjugation, although the patient himself complained of diplopia. The pupils were of moderate size, the right possibly larger than the left.* Speech was scanning, drawling, monotonous. Consciousness unimpaired, marked headache as on the day before, and the respirations were of the same character, but worse. The examination was necessarily very incomplete, owing to the obviously dangerous condition of the man, and the advisability of his being at once removed from his home to a hospital. He was therefore sent to St. Thomas's, where he was received under the care of one of us (J. S. Bristowe) the same day at about noon.

On admission at 12 noon he was paralysed in all his limbs; he had no trace of voluntary power over the movements of the lower extremities or over those of the upper and forearms, but he could move his fingers slightly and grasp objects feebly. The muscles were flabby, there were no tendon-reflexes whatever, but the plantar reflexes were present in a slight degree. There was no anæsthesia, tingling, or neuralgic pain, and no tenderness of muscles. The speech was thick and indistinct, apparently in consequence of the accumulation of saliva at the back of the throat, and for the same reason his breathing was noisy and difficult. He had obviously paralysis of the fauces, which rendered swallowing almost impossible. There was no apparent paralysis, however, of the tongue or face, or any of the muscles of the trunk. The conjunctivæ were congested; the right pupil was somewhat larger than the left, but reacted to light and accommodation. He was perfectly calm and sensible, had not, nor had he at any time, either delusions or mental aberration of any kind, nor, although he was unable to swallow fluids, had he any dread of them. There were no convulsive movements.

2 P.M.—He was much in the same condition, excepting that the accumulation in his throat had increased, and his speech and breathing had become more difficult. He was still quite sensible; his respirations were 15 to the minute, irregular and laboured, pulse 96, temp. 102·6°.

* *Vide* microscopical examination of the mesencephalon.

The symptoms continued without much change, excepting that he gradually passed into an unconscious condition.

11 P.M. (Victor Horsley).—He was completely comatose, and remained so up to the moment of death. There was absolute paralysis of all his limbs and of the trunk; the pupils became contracted; the temperature at 9 P.M. was 101·4°, at midnight, 102°.

October 20.—9 A.M. he died.

Autopsy (five hours after death).—The body was still warm, rigor mortis well marked in the legs, only slight in the arms.

Central nervous system.—Brain. Both the membranes, cerebrum, cerebellum and medulla appeared perfectly normal. The spinal cord was distinctly congested and more especially the white matter in the dorsal region. It was also thought that some of the spinal nerve-roots were pinker than in health.

Peripheral nervous system.—The right great sciatic nerve was removed and found to be notably congested.

Serous membranes.—Pericardium and peritoneum healthy; pleuræ, old adhesions in both apices.

Respiratory system.—Larynx and trachea normal; lungs both highly congested and œdematous.

Circulatory system.—Heart normal; blood dark, fluid.

Lymphatic system.—A few caseous glands in the neck.

Alimentary system.—Tongue, pharynx, œsophagus, and salivary glands normal. Stomach contained a quantity of coffee-ground-like material which looked like altered blood. The mucous membrane of the cardiac end was somewhat congested. Liver normal, save that there were a few caseous glands in the portal fissure. Spleen normal. Pancreas normal.

Renal system.—Both kidneys were a little congested, but of healthy appearance.

All other organs appeared quite healthy.

Microscopical examination of the mesencephalon, medulla oblongata, and spinal cord. The parts after being hardened in bichromate of ammonia 2 per cent. solution were frozen in gum; sections cut with Cathcart's freezing microtome and stained, some with logwood, others with aniline blue black.

Mesencephalon.—Neuroglia: The nuclei appear to be increased in number, but in view of infiltration of the lymph spaces by leucocytes it is impossible to determine this point with certainty.

Nerve-corpuscles.—Those of the nucleus of the third nerve

were very greatly pigmented. So far had this degeneration proceeded that very little protoplasm was left which stained with either of the above-named dyes.

Nerve-fibres.—Nil, abnormal.

Blood-vessels.—With very rare exceptions the vessels were everywhere full of blood, and in many instances the outline of the corpuscles was completely lost as in a long-standing coagulum. The walls of the vessels were almost invariably infiltrated with leucocytes.

Lymph vessels.—The perivascular lymphatic sheaths were everywhere infiltrated with leucocytes. In many places the lymph spaces were full of leucocytes.

All the foregoing appearances were most marked in the grey matter of the floor of and surrounding the aqueduct of Sylvius.

Miliary abscess.—In the nucleus of the third nerve were found in several sections areas where extravasation of leucocytes had occurred in the neuroglia, so as to produce the appearances described as "miliary abscess." This is interesting in connection with the ophthalmoplegia externa and interna observed during life, *vide* p. 40.

Medulla oblongata.—Precisely the same appearances as in the mesencephalon. The nerve-corpuscles were very notably degenerated, and there was a focus of leucocytes in one olivary body.

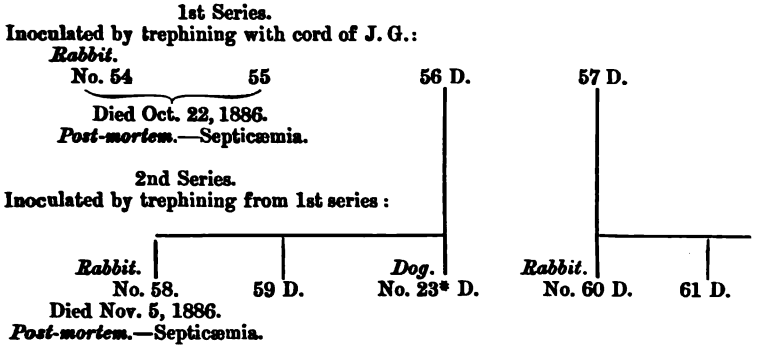
Spinal cord.—The same description also applied to the spinal cord. In the dorsal region, where the congestion was macroscopically most obvious, it was most remarkable in the microscopical sections. Every vessel was distended with blood, and in addition every lymphatic crammed with leucocytes. The grey matter also was infiltrated with leucocytes. See neuroglia of mesencephalon above.

Remarks.—In the preceding case the autopsy revealed certain changes which were explicable partly by the mode of death, partly by the presumption that the patient died of rabies. Perhaps the macroscopical appearance most pathognomic of the latter disease was the condition of the stomach, but in this case it had to be totally discounted on account of the patient's intemperate habits; indeed it was suggested at one time that his early symptoms were of alcoholic origin. The microscopical examination of the spinal cord, &c., revealed the characteristic lesions of rabies, but the importance of thoroughly clearing up* the diagnosis was obvious, and there-

* A coroner's inquest was held on this point. The utter absurdity of such a

fore two inches of the cervical enlargement of the spinal cord was taken by one of us (Victor Horsley) to the Brown Institution, there crushed in sterilised bouillon, and then inoculated according to the subdural method of M. Pasteur into four rabbits as is shown in the following Table. Of these, two unfortunately died of septicæmia, which was extremely prevalent among these animals at the time. From the two survivors, however, which ultimately died of characteristic rabies, the virus was carried on by similar subdural inoculation to a second series of four rabbits and one dog. Of these, one rabbit died of septicæmia, the other animals of typical paralytic rabies.

TABLE.



D = Died with characteristic paralytic symptoms.

	Incubation period.	*Duration of illness.*
Rabbit, No. 56.	7–8 days ...	... ... 5 days.
„ „ 57.	8 „ ...	... ... 4 „
„ „ 59.	7 „ ...	... ... 3 „
„ „ 60.	7 „ ..	... ... 2 „
„ „ 61.	7 „ ...	... ... 3 „
Dog. „ 23.	7–8 „ ...	... ... 2 „

From the accompanying Table it will be seen that the average incubation period of the disease in the animals inoculated in both generations was a little over seven days, and the duration of the disease a little over three days. These effects of the inoculation would apparently lend some colour to the irresponsible assertion of M. Peter that it was the protective material itself which caused the peculiar character

proceeding was rendered patent by the jury returning a verdict, without waiting for the result of the experimental inoculations, to the effect that the patient died from ascending paralysis due to exposure to cold.

* *I. e.* No. in Note Ledger I, "Hydrophobia."—(V. H.)

of the rabies in this man, but on summing up the whole of the evidence we find that in the first place the patient was seized with the malady (estimating its appearance by the first distinctive symptom) exactly forty-two days after he was bitten by the cat. Now, of course forty-two days is well known to be the average period of the incubation of the disease when inoculated in the usual way, namely, subcutaneously by the bite of a rabid animal of the streets; whereas if the malady had proceeded from the protective inoculations, the incubation period should have been fourteen days to twenty-one days at the outside. In the second place, in view of the prophylactic protection afforded by the preliminary inoculations of spinal cords known to be non-virulent it is impossible that any subsequent injection of the virus contained in the cords dried for less than five days could have any effect whatever. Indeed, the only point upon which M. Peter and those allied with him might in any way have relied in their address to the Academy of Medicine was the shortness of the incubation period of the disease in the experimental animals, but it is only with those who are ignorant of the variations to which that period is subject in rabies of the streets that this fact can have any real weight. For it has been observed, as detailed below, by several investigators that occasionally experimental inoculations with the virus of rabies of the streets, especially when the rabid animal is a cat, are followed by an unusually early development of the disease. (It will not be out of place here to mention that as a rule subdural inoculations of rabbits with the virus of animals found rabid in the streets is followed by a development of the disease in from fourteen to twenty-one days, whereas the virus which M. Pasteur ultimately obtained by numerous passages from rabbit to rabbit usually produces the first symptom in about seven to eight days, and this latter he terms the "virus fixe.") Now, if this difference in rapidity of action between these two forms of the virus was absolutely constant, such constancy would assume considerable importance in suggesting the causation of the particular form the disease took in this case, but it is not so, for although the "virus fixe," as M. Pasteur terms it, kills the animal in about eleven days (*i. e.* developing the first symptom in seven to eight days) with practically invariable certainty, it has been found, as before stated, that occasionally the virus of the streets, instead of slowly developing the disease in from fourteen to sixteen days, will imitate the "virus fixe" in the degree of rapidity

with which it acts. Thus, Dr. Roux* inoculated on October 28, 1886, two guinea-pigs from the medulla of a cat which had bitten a patient successfully treated by M. Pasteur. These guinea-pigs died with an incubation period of six days. In a second instance two guinea-pigs inoculated (also from a cat) on February 14, 1887, died with an incubation period of seven days. In a second passage of the virus the animals, including a rabbit and a guinea-pig, died with an incubation period of eight days; in a third passage the incubation period was eleven days, in a fourth it was ten days, and in a fifth also ten days. In connection with the recent case it is very interesting to notice that in those cases observed by Dr. Roux the animal supplying the virus was a cat. Quite recently one of us (Victor Horsley) has observed in the case of a rabbit inoculated from a rabid dog of the streets the first symptom of the disease on the sixth day, and in another case of a dog inoculated with the virus of street rabies from a dog an incubation period of nine days. Dr. Gamaleia, of Odessa, has also observed from one case of a rabid wolf an incubation period of nine days, and Dr. Roux has collected from the note-books of M. Pasteur the following short incubation periods:

Street Rabies.—From a dog, first generation, nine days; second generation, thirteen.

From a dog nine days.

From a cat nine days.

From a cat nine days.

From a cat eleven days.

From a cat ten days.

From a cat ten days.

From a man bitten by a wolf, incubation period of ten days.

Thus, of fourteen animals from whom a rabid virus was obtained capable of producing the first symptom in these unusually short incubation periods, in no less than seven instances the animal was a cat, in four instances it was a dog, in two instances a man, one being bitten by a wolf and the other by a cat, and in one a wolf. This enormous proportion of cats, of more than 50 per cent., shows clearly that, as has often been suspected, though never before scientifically established, the virus in this animal is peculiarly powerful. This

* Dr. Roux very kindly extracted from his note-book at the laboratory of M. Pasteur the above-described details, and I am also indebted to his courtesy for permission to publish them here.

is not the place to further discuss the subject, inasmuch as it will be treated of at length by one of us (Victor Horsley) in a subsequent communication to the Pathological Society. Suffice it to say that, as before stated, the fact of the virus obtained from the spinal cord of this patient evoking the disease in seven days evidently proves no more than that it was originally obtained from a cat.

In the foregoing remarks we have simply discussed the probable source of the rabid virus from the effects of which the patient died. We have not taken into consideration at all the very obvious relation of his symptoms to those presented by the disease known as Landry's or acute ascending paralysis. It was suggested some years ago by a physician at Leicester, whose name we unfortunately cannot find for reference, that possibly Landry's paralysis might be a form of hydrophobia; but a most valuable case has been recently published by Surgeon-Major Keegan in the *Indian Medical Gazette,* in which he describes an ordinary case of hydrophobia in man terminating by the most clearly developed acute ascending paralysis, and in describing it he points out the exact similarity of the two conditions. In his case he prolonged the life of the patient by controlling the hyperæsthesia of the fauces with cocaine, so that he was enabled to administer nourishment in considerable quantity. In this way the patient was carried through the first two stages of the malady, and consequently retained sufficient strength to develop the final or paralytic stage in its full completeness, and Dr. Keegan points out how precisely this resembled what has hitherto been described as the acute ascending paralysis of Landry. The possibility that cases of acute ascending paralysis were in some cases due to the rabid virus was also accepted by the Committee recently appointed by the Local Government Board to investigate M. Pasteur's method (*vide* the Report of that Committee). In the present instance there were special reasons for ascribing the symptoms to the little known Landry's paralysis, since it is agreed by all neurologists that the exciting and predisposing causes of this affection are (1) exposure to cold, (2) alcoholism. Both these were most strongly marked in the case which is the subject of this paper, and hence when considered with the symptoms would have left in the minds of anyone conversant with this form of paralysis an impression that this was an example of the disease. The inoculations alone showed that it was paralytic rabies. Now that, thanks to M. Pasteur,

we have the power of scientifically establishing this point we shall be able to test all future cases of acute ascending paralysis, and to find whether they are due to the virus of rabies or to some other poison, without doubt one of the class of acute specifics.

We should like here to suggest as probable that what we know as acute and subacute myelitis may be really simply the effects of a similar though less active virus.

To sum up then we bring this case forward as a remarkable one in several ways, first, on account of the exact parallel between it (namely, paralytic rabies*) and Landry's paralysis; and, secondly, that in accordance with rapidly accumulating facts, it exhibits an example of the intensity of the rabic virus in the cat.

* For a review of the subject of paralytic rabies in man see a valuable paper by Dr. Gamaleia in the *Annales de l'Institut Pasteur*, 1887.

XI.—*A case of Purulent Effusion into the Pericardium, treated successfully by aspiration and drainage.* By W. H. Dickinson, M.D. *Read November* 23, 1888.

HARRY L., æt. 10, a schoolboy, living at West Norwood, was taken into St. George's Hospital on June 15, 1887. He had had measles and scarlatina, never rheumatic fever nor any illness affecting his chest. There was no history of phthisis in the family.

The boy was apparently well until ten weeks before admission, when he was suddenly seized with severe pain in the right groin, with excessive tenderness, and flexure of the thigh on the pelvis. There was no history of constipation nor of any strain or injury. The boy was delirious and had a temperature of from 104° to 105° F. Dr. Harris, of Norwood, who was now called in, found the pain and tenderness chiefly in the thigh, in the course of the left sciatic nerve; in about ten days from the outset it shifted to the left popliteal space. A few days after this the right buttock presented a painful fluctuating swelling, about as large as a walnut; this was poulticed, rapidly increased, broke, and discharged a quantity of pus, which was estimated by the parents at half a gallon, or according to the boy's own statement, "made a puddle in the bed." The fever now abated, the discharge quickly came to an end, and everything went on smoothly until general œdema presented itself, being most marked on the right side, on which he generally lay. This continued, but for a time lessened, until three weeks before admission he began to get short of breath and had a little cough. The face and thorax were now very œdematous, and the cervical glands swollen, and it was found that the left pleura was full of fluid. The dyspnœa was now great, and it was proposed to tap the pleura, but to this the parents refused to consent, and Mr. Noad had the patient removed to the hospital.

The case was regarded as one of pyæmia.

For this account I am indebted to Dr. Harris, under whose care the boy was, and to Mr. Noad, who occasionally saw him with Dr. Harris.

June 15.—On admission the conditions most prominently

noticeable were œdema and dyspnœa. The œdema was generally, but not equally, distributed. The face was very puffy, especially about the eyes. The thorax, particularly on the front and left side, was deeply œdematous, as also were the lower extremities, the right thigh more than the left, the legs equally. The left side of the thorax, towards which he lay, was obviously larger than the right; it was difficult to say how much of the inequality was due to œdema and how much to swelling within. It was profoundly dull on percussion, as if full of fluid. The breathing behind was tubular, in front and laterally almost absent. The heart was scarcely to be distinguished by hand or ear, but after some trouble signs of it were found in about its normal position. The breathing was conducted almost wholly by the right side, at the rate of 50 in the minute. The pulse was so feeble as scarcely to be felt; it was irregular, 112 in the minute. The liver projected below the umbilicus. The veins on the lower part of the thorax and abdomen on both sides were exaggerated and distended, as is sometimes seen in advanced cirrhosis. The complexion was greyish and became more so, and on the 18th, three days after admission, the left pleura was aspirated in the axillary line and 37 oz. of serous fluid drawn off.

This gave some relief, but by the 23rd he was even worse than before. The face was markedly grey, the lips blue, the position on the left side imperative. The heart was with difficulty detected at a point two inches to the left of the ensiform cartilage, at which spot a slight pleural scrape could occasionally be heard on deep inspiration. The heart's sounds, as far as they could be heard, were free from murmur. He was now tapped again in the same place and manner, and 32 oz. of serum drawn off.

June 24.—Next day he was easier and less œdematous. The left pleural region was still dull, as was the whole of the præcordial region in continuity with it.

June 25.—Next day it was recognised that the dulness in this region extended to outside the right nipple, and thought that it had recently increased. The heart's sounds were inaudible, excepting with considerable difficulty at a spot about midway between the median line and the left nipple, slightly below the latter. There was now more œdema, blueness, and distress, and paracentesis was again performed as before, with the removal from the left pleura of 26 oz. of serum, lighter and clearer than before.

June 27.—This again gave conscious relief. His posi-

tion became less constrained, his breathing less laboured, and it was found that the heart had moved to the left, nearer the nipple, towards its normal position. The sounds were unaltered in character.

June 28.—He was again tapped and 24 oz. of serum drawn off from the same cavity. After this he lay less on the left side, on which, however, the œdema had now become deeper. The dulness over the left pleura was as before, inseparable from the præcordial dulness, and this continued without a break to the right of the right nipple. The heart's sounds were audible with difficulty, without murmur, at the spot indicated in the diagram, and there only, on the seventh left rib.

Two days after the last pleural tapping a marked increase of the dyspnœa and distress became apparent. Repeated emptying of the pleura was followed only by repeated accumulation, and I determined to aim at more permanent results by way of the pericardium. It could not be doubted that this was distended, considering the degree to which the sounds and impulse of the heart were obliterated, together with the extent of dulness across the front of the chest, and the presumption that this did not belong to either pleura, for it was unaffected by tapping the left; while, as to the right, this was apparently empty or nearly so, for its back and lateral parts were resonant, and the exaggerated action of the lung within it loudly heard in these regions. I therefore determined to procure the puncture of the pericardium, and that at a spot which suggested itself as far removed from the heart and great vessels, though well on to the dulness which was reckoned as pericardial. This was close to the right edge of the sternum in the fifth* interspace, over the wide part of the distended pericardium, far from the heart, which moved to the left after each aspiration of the pleura, and had recently done so after the last. At this spot Mr. Rouse, on June 30, inserted an aspirator and drew off 1½ oz. of thick, inoffensive pus. The discharge then stopped, possibly because the tube was obstructed, but it was thought well to be satisfied for the present. There was some relief, but not much.

The distress increased; on July 4 the heart was most audible on the right of the sternum near the puncture, and the left pleura was again tapped, with the removal of 33 oz. of serum, and again on the 7th, with the removal of 27½ oz.,

* The ribs were so close together that it was not easy to be sure whether the puncture was in the fourth or fifth space; it was thought to have been in the fifth as stated.

and the return of the heart to its former position on the left side.

July 8.—The heart being now thus removed from danger, the præcordial region was punctured for the second time at the same spot as before, and 12 oz. of pus, like the last, withdrawn. Towards the close of the operation he became faint, and it was discontinued before the pus had ceased to run. Under it he became less grey, the lips less blue, his breathing became obviously better; he talked with ease while the pus was flowing, and underwent an immediate improvement more marked than with any of the preceding operations. After it breathing was heard generally over the præcordial region; the heart's sounds were heard still feebly, without murmur or friction.

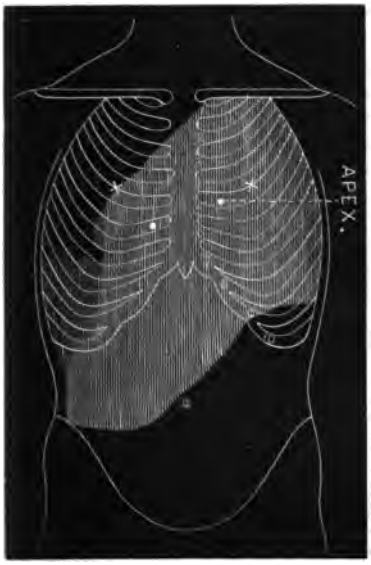


FIG. 4.—June 30. Diagram of dulness to right of sternum before any operation. On this date 1½ oz. pus were withdrawn by means of hypodermic syringe through puncture marked in fifth space.

FIG. 5.—July 9. Diagram of dulness after withdrawal of 8 oz. pus by same means and through same puncture as before. Fig. 4 represents practically the conditions before puncture.

On the 11th, 39 oz. of serum were drawn from the left pleura, and on the 14th 37 oz. After the last of these the heart moved from the right of the sternum, where it had

before been evident, to about its normal position. Friction could be heard with breathing over the præcordial region; this ceased or nearly so when the breath was held, and was not doubted as pleural rather than pericardial. The boy was now better in most respects. The posture was less constrained,

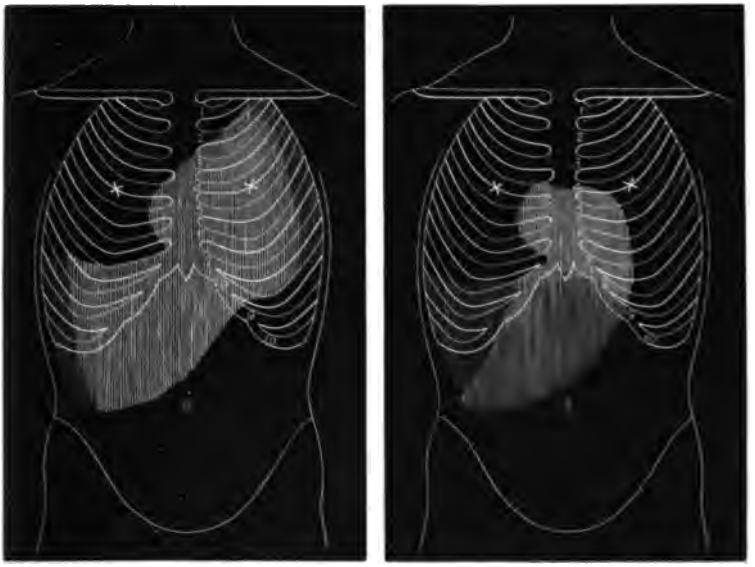
FIG. 6.—July 12. Dulness. Pleura emptied on July 11, 39 oz. removed.

and the breathing better; the face was no longer grey or the lips blue; the thoracic œdema had almost gone; the superficial veins in the abdomen and thorax were still much distended.

The heart now being, July 15, well to the left, the pericardium was again aspirated at the same spot as before, and 19½ oz. of opaque and dense perfectly sweet pus drawn off. In certain positions the cannula moved with each beat of the heart, giving the impression that the instrument (a blunt one) rested on its surface. After a time the heart seemed to beat against the cannula in every position, upon which the operation was discontinued. Immediately after it rough breathing sounds with a little doubtful friction were heard over the whole præcordial surface but no pericardial friction.

By the 19th the dyspnœa had again become distressing, and 46½ oz. of serum were drawn from the left pleura without any obvious relief. The pericardium had now filled up and

the futility of repeated aspirations became apparent. This cavity had been thus punctured three times between June 30 and July 15, each time removing more than the last. The pleura, between June 18 and July 19, had been punctured nine times, with no sign of the operation ceasing to be called for.



FIGS. 7 and 8.—July 16. Diagrams of dulness before and after withdrawal from pericardium by aspiration of 18 oz. thick pus.

In these circumstances it was determined to proceed more radically and drain the suppurating cavity, hoping thereby not only to relieve the heart itself, but remove the cause of the pleural accumulation.

July 22.—Ether having been given, Mr. Rouse now thrust a narrow-bladed knife where the trocar had formerly passed, and followed this with an india-rubber tube. A large quantity of mingled blood and pus came out, and with this air bubbled out of the wound, raising a fear at first that the right lung had been penetrated; but it was presently thought that the air came out of the pericardium, having been sucked in through the wound by the action of the heart.

For an hour or so after the operation the boy was very faint; he recovered under the free use of brandy.

Next day when the dressings were changed the wound

was found to have discharged a large amount of pus without blood. He now felt much easier and better, and was practically free from dyspnœa. There was abundant breathing and no hyper-resonance on the right side, showing that the right pleura had not been wounded, as for a short time had been feared.

On the 24th I found him again in much distress from dyspnœa, breathing 52 in the minute, and with the drainage-tube stopped up. This was exchanged for a larger one, with the escape of 4 oz. of pink purulent matter like raspberry cream, and immediate relief.

FIG. 9.—July 22. Dulness before incision. Pleura tapped day before, and upper part of left lung consequently resonant.

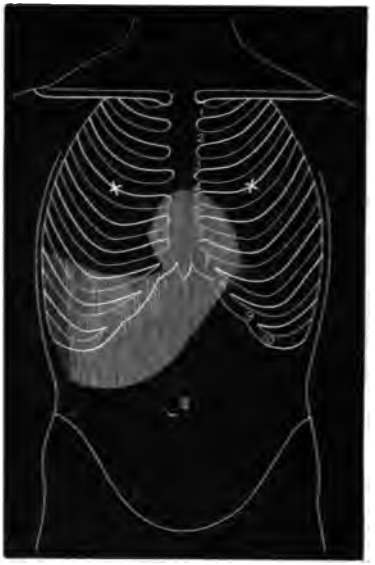


FIG. 10.—September 21. After recovery; œdema of legs persisting; wound closed.

July 25.—The discharge continued free, air bubbling out of the tube with the action of the heart. It was arranged that the boy should be laid upon his face three times a day for the better evacuation of the pericardium; and on the following day, there being now evidence of re-accumulation in the left pleura, 38 oz. of serum were drawn by aspiration from this cavity.

July 27.—The pericardial discharge remained sweet, and gradually diminished. The sounds of the heart were weak and low, but not otherwise abnormal; nor was there any pericardial friction. The breathing sounds belonging to both lungs had now extended much over what was formerly recognised as the region of pericardial dulness. The œdema of the thoracic surface had now entirely disappeared, and that of the legs nearly so. Some places which had threatened to become bedsores were now sound. His face was less thin; he looked better, felt better, fed better, and moved with more freedom, lying usually on his back or the left side, but with contentment on the abdomen when so desired.

His progress was diversified rather than interrupted by an attack of diarrhœa which lasted a few days and may have been due to external causes. Fluid again presented itself in the left pleura, and on August 2, 44 oz. of serum were removed as before from this cavity.

Next day there was considerable pain, referred to the præcordium, and surgical emphysema on the left side of the thorax, to which was superadded on the 6th amphoric breathing outside the left nipple line between the sixth and seventh ribs, with hyper-resonance in the scapular region. At the same time there was a return of cyanosis and of œdema chiefly of the left side of the body, on which he lay.

A swelling which was formerly noticed on one of the finger-joints, and had assumed the character of an abscess, now (August 11) broke and discharged pus.

The signs of effusion of air probably due to an injury inflicted on the lung at the last aspiration gradually ceased to be evident, and were replaced by those of a renewed collection of fluid in the left pleura, of which 41½ oz. were removed as before, on August 15. This operation, of which the last performance was the twelfth in rather less than two months, was not again called for.

The pericardial discharge kept on steadily, but in small amount, from two to three drachms daily, and free from offensive smell.

On the 29th Dr. Isambard Owen, who now had charge of the case in my absence, made the following note:—"Heart-sounds heard loudest at normal position of apex-beat. At fifth space, an inch and a half from the nipple line, friction distinctly audible with heart-sounds, but increased by deep inspiration and much diminished when patient holds his

breath. Pleural friction heard from the point mentioned to axillary line." Dr. Owen's impression at this date was that some of the friction was pericardial; if this was so—and certainly the particulars look like it—this was the only instance in the course of the case in which pericardial friction was recognised.

From this time there is little to record save gradual improvement. By September 2 the discharge, still inoffensive, had become extremely slight, and the movement of the tube with the action of the heart was now such that it was necessary first to shorten this instrument, then to replace it with a shred of oiled silk. This itself was soon withdrawn, and only a cicatrix was left, which moved with each beat of the heart.

There was now no cyanosis or appearance of dyspnœa, though the breathing was still quick—30 in the minute. No friction sounds were anywhere audible. The cardiac impulse was in the normal position, the sounds free from murmur. The præcordial dulness was continued across the median line for half an inch. There was dulness over the left lung below the fourth rib; there was full resonance over the right lung and exaggerated breathing in it. There was now no œdema of the thorax or legs, but the hepatic enlargement still held its place, as also did the enlarged veins.

By October 4 these vessels had become less conspicuous, and the liver smaller. The impulse of the heart could not be seen, but was felt one inch inside and half an inch below the left nipple. The sounds were not abnormal. The breathing and resonance were natural over nearly all the right side of the chest and the greater part of the left. Where the suppurating cavity had been both were deficient, as they were also over the lower part of the left pleura. There was still a trace of œdema in the legs, which had a purplish colour; the urine was normal in appearance and free from albumen. The boy had gained flesh greatly; his general aspect was that of health, and he was on October 5 sent to Eastbourne as a convalescent.

He came back on the 29th, fat, rosy, and with the appearance of perfect health. The impulse of the heart was nearly in its natural position, but a trifle too high, being in the interspace immediately below the nipple. No abnormality of the sounds could be appreciated. The scar was pulled in with each action of the heart, but to a less extent than in the preceding month. The veins over the thorax and abdomen were still conspicuous, rather more so on the left side than the right.

The breathing and vocal resonance in the lungs scarcely presented any difference between each other or with the condition of health. There was a little fulness in the hepatic region. The liver could be felt, but not very distinctly, about half an inch below the edge of the thorax. There was a trace of œdema in the legs.

The history of this case, the large abscess in the buttock, the smaller one in the finger, the absence of signs of tubercle, and the completeness of the recovery, appeared to show beyond doubt that the disease was pyæmic.

In the course of less than two months the chest had been punctured sixteen times: the pleura twelve times with the aspirator, the pericardium four times, thrice with the aspirator, once so as to leave an opening and a discharge which continued for nearly two months. The freedom with which the heart moved according to the state of the left pleura suggested the tapping of the pericardium when the heart was temporarily out of the way; the operation being performed as much to the right as possible while the heart was as far to the left as possible. The oscillation of the heart offered facilities for the safe tapping of the pericardium which may probably be presented in other similar cases, considering the frequency of pleural as a result of pericardial effusion. It is possible that in some future case the extreme left might be pointed to as clearly as was the right of the sternum in this. As to puncture in this situation, either the fourth or fifth interspace may be chosen, close to the sternum. It is necessary to keep close to the bone to be well clear of the internal mammary artery. From either of the points indicated a distended pericardium could not fail to be reached, while the heart would not be endangered if advantage were taken of its oscillations. The lower parts, as it is not needful to observe, move freely, the upper scarcely at all.

The almost uniform absence of pericardial friction calls for remark. I myself recognised none though I heard pleural friction often, and that over parts of the region once occupied by pericardial effusion, or what was so regarded. The experience of Dr. Slater exactly corresponds with my own. Once only was pericardial friction reported, and that in a careful note made by Dr. Isambard Owen, who had charge of the case in my absence, on August 29, when the cavity was discharging and contracting. The careful detail given in this note appears to leave no room for doubt as to its accuracy.

The long absence of pericardial friction, especially after the

removal of much or most of the fluid, led to a careful reconsideration of the diagnosis, but it did not seem possible to doubt that the fluid was actually pericardial. It could not have been in the left pleura, for the dulness retained an isolated position in front of the chest after this cavity was emptied; beside which the contents of the left pleura were serous, those of the cavity in question purulent. Neither could it have consisted of a circumscribed empyema in the right pleura, for the evidence of fluid, though the left pleura had been emptied, extended too far to the left to possibly belong to this region. Was it a great mass of suppuration in the anterior mediastinum between the pericardium and the sternum? This appeared to be negatived by the depth, capacity, and circumscription of the cavity. The collection of matter could not be assigned to any position in the chest except one of the great serous cavities, and of these it could belong only to the pericardium, with the great effusions within which the one in question corresponded in shape, position, and extent. As to the absence, or nearly so, of friction, I find that this is not unknown in the circumstances. Bauer, in *Ziemssen's Cyclopædia*, quotes the opinion that "the friction produced is often absent in purulent pericarditis," though he holds this opinion to be erroneous. Dr. Samuel West has placed upon record a case which closely resembles mine. A large quantity of pus was removed from a cavity in front of the chest which was believed, I have no doubt correctly, to have been the pericardium. No pericardial friction was ever heard; and there was a similar absence of this sign in a similar case, recorded by Rosentein and quoted by West, in which a purulent accumulation which had pericardial relations was treated by puncture and incision. This case, like West's* and mine, fortunately lacked post-mortem confirmation, but in mine—and I have no doubt Dr. West would say the same with regard to his—it would be mere affectation to speak as though the pericardial site of the fluid were not practically certain.

The rapid and repeated accumulation of serum in one pleura or both, due no doubt to pressure of the pericardium on the roots of the lungs, and the small relief afforded by operations directed to the pleural cavities, are circumstances which have been noticed in other similar cases. I saw one a few months before the occurrences which I have related. A boy of fifteen was brought into the hospital cyanosed, pulse-

* West's case is recorded in the sixty-sixth volume of *Medico-Chirurgical Transactions.*

less and in a state of distressing orthopnœa, which was traced to large effusions in the pericardium, which reached up to the second rib, and in the right pleura. He was generally œdematous, especially the left arm, the hands were turgid and blue, the liver much enlarged. I determined to deal mechanically with the right pleura, which was very full, leaving the pericardium to more gradual agencies. The pleura was tapped three times within twelve days with the aggregate removal of 169 oz. of serum. He died three days after the last tapping, being just about to undergo a fourth. After death a large quantity of serum was found in both pleuræ; most in the left. Sixty-one ounces of serum were found in the pericardium, which was covered with lymph and that underlaid with miliary tubercle. This case taught me the futility of dealing with the pleuræ when the primary effusion was in the pericardium, and made me determine to avoid in future the error which I had fallen into.

I have to thank Dr. Slater for the diagrams from which those before the Society were copied.

XII.—*A case of Extensive Pyopericardium, associated with osteo-myelitis: free incision of the sac: irrigation: death.* By Robert William Parker. *Read November* 23, 1888.

THE case I am about to relate is one of pyopericardium supervening in the course of acute osteo-myelitis of the tibia. I will, as briefly as possible, recapitulate the chief points of her case previous to the recognition of her pericarditis. It is, however, in connection with the latter disease that I bring the case under the notice of this Society.

Mary S., æt. 9, came under my observation on November 24, 1887, suffering from pain and tenderness in the right leg, with inability to walk. There had been no known injury. The disease appeared to be spontaneous and sudden in its origin five days previously.

On admission into the East London Hospital for Children the upper third of the anterior surface of the right leg was swollen, indurated, red, hot, and extremely tender when touched. There was an obscure sense of fluctuation; the glands in Scarpa's triangle were somewhat enlarged and tender. After an anæsthetic had been administered, an incision 2 inches long was made into the inflamed soft parts, through the periosteum down to the tibia over its superficial surface, beginning just below the level of the epiphysial line. A small quantity of blood-stained non-offensive serum exuded, but no pus. The periosteum was not much separated from the bone. A large boracic fomentation was then applied to the limb. At first the local swelling and tenderness decreased, but after a few days the discharge became purulent and offensive, and there was considerable constitutional disturbance, the temperature rising as high as 103° F.; offensive diarrhœa, too, supervened.

So matters continued until December 8, when the knee-joint became hot, tense, swollen, and very painful. It was now quite evident that we had to deal with a severe case of osteo-myelitis; the upper third of the tibia was separated from its periosteum, exposed and black; there was a foul discharge, and the knee-joint appeared to have become seriously affected.

On December 9 an anæsthetic was given, and the original incision prolonged upwards and downwards. A quan-

tity of pus was let out from the hinder surface of the tibia, and about the knee-joint, after which the swelling of the latter became less obvious.

On December 14 the knee-joint was again much swollen; it was therefore explored and found to contain pus. Free incisions were made on the inner and outer aspects, and after the joint had been freely irrigated a drainage-tube was passed through. Notwithstanding copious irrigation with corrosive sublimate solution, the local use of iodoform and boracic acid dressings, the parts remained very offensive.

On December 24, that is to say about four weeks after her admission, the upper half of the tibia was necrosed and black, and separated from its upper epiphysis. I therefore cut the tibia across and removed the dead portion, putting a piece of large drainage-tube in its place with a view to prevent the sheath of periosteum from collapsing and to stimulate the osteogenetic function.

By January 2 (1888) a considerable improvement in the local condition had set in, the fœtor had largely disappeared, and healthy granulation-tissue was springing up on all sides. There was a discharge of inoffensive yellowish pus from the knee. The leg was being carefully supported on a MacIntyre's splint. No other joints had become affected.

The girl's general condition, however, was not satisfactory. Her temperature continued to be very variable, ranging from 100° to 104° F.; she was greatly emaciated, and excessively irritable. Whenever a dressing had to be done it became necessary to hold her, as she struggled violently and threw herself about in a manner which was very exhausting to her.

On January 4 she began to suffer from cough and to complain of pain in her chest. An expectorant mixture was ordered, and the application to the chest of spongiopiline wrung out of hot water.

On January 6, after the dressing of the leg was completed amid the usual crying and struggling, I noticed that her breathing was short and jerky, and that the girl was in considerable distress; she was very pale, her pulse very weak, and her lips were blue. This led me to make a more careful examination of the chest than I had done hitherto. On inspection, there was a marked depression and drawing in of the skin at the epigastrium, her respiration was seen to be largely abdominal; the front wall of the chest hardly moved on inspiration, and the intercostal spaces were obliterated. There was complete dulness over the whole front of the chest below

the level of the second rib; there was no dulness in the posterior chest, and there were no abnormal lung sounds in front at the apices, but loud coarse râles were abundantly heard about the bases; the heart-sounds were barely audible. I now secured the co-operation of my friend and colleague, Dr. Eustace Smith. He agreed with me in thinking that the pericardium was full of fluid and in the desirability of attempting to remove it, notwithstanding the girl's pyæmic and exhausted condition. I introduced a small aspirator needle and cannula (Potain's) into the fourth left intercostal space a quarter inch from the sternum, and drew off 8 oz. of sweet but flocculent pus. When first introduced, the needle could be felt to move freely in a cavity, but after the 8 oz. of fluid had been withdrawn, the cannula came in contact with the heart and moved synchronously with the heart's pulsations. I therefore withdrew it. During the operation the girl's condition improved, her breathing became markedly easier, and her colour more natural. She slept well on the following night, and seemed better in the morning. This relief, however, was not long maintained; dyspnœa gradually set in after any exertion, such as dressing the leg, feeding, washing, and the necessary personal attentions she required, and within a few days her condition was desperate. It now became a question whether an attempt should be made to relieve her, or whether she should be allowed to die with her pericardium loaded with pus. I decided to incise the pericardium and insert a tube.

On January 10 the child was carefully anæsthetised, the A. C. E. mixture being administered by Mr. Hastings, one of the resident assistants, and Mr. Battams, resident medical officer, skilfully assisted me in the operative details. I made a vertical incision about 2 inches long, along the left border of the sternum, the centre corresponding to the fourth interspace, then removed about an inch of the fifth left costal cartilage; some oozing of blood took place, which was soon arrested by pressure with a dried sponge. On cutting through and retracting the perichrondrium, the distended pericardium was at once seen: this was caught up with a pair of forceps and sewn to the chest wall. An incision about an inch long was then made into it, and a quantity of very flocculent and shreddy pus was let out, its evacuation being aided from time to time by pressure on the abdominal and chest walls. Some large masses of membraniform pus had to be removed with forceps, and I could feel that there was much more of the kind of pus left behind; as this was difficult to remove

I determined to use an irrigator; the irrigation at first answered admirably, and a large quantity of the lymph was washed out. I wish, now, I had been content with what I had already accomplished without irrigation, but I was unwilling to leave this shreddy lymph in the pericardium of a pyæmic patient such as this.

Being unable to breathe in any other, the girl was in a reclining semi-sitting position, and as it was difficult to catch the discharging fluids in any vessel, a folded towel was used instead. Perhaps on this account, I failed to see that while a considerable quantity of pus was being washed out by the side of the irrigator nozzle, a quantity of the irrigated fluid was every now and again collecting within the pericardium as the opening into it became occluded by the membranous shreds which were being washed out, and that a strain was thus put upon the heart, which its already weakened condition was unable to bear. I perceived the danger when it was too late. The irrigator was at once removed and the contained fluid rapidly let out; but although there was still feeble pulsation, the heart in a few minutes ceased to beat. And so the child died. We tried every means in our power to re-stimulate the heart into activity; but neither the action of an electric needle applied direct to the heart nor the indirect effect of ether injected subcutaneously into the chest-wall (these remedies having been placed in readiness before commencing the operation) proved of any lasting service. The operation had lasted twenty minutes.

A partial autopsy was made on the following day. On raising the sternum and cartilages of the ribs in the usual manner, the dilated pericardium was seen to occupy the entire space and even to extend considerably beyond these limits, reaching right and left to the anterior vertical axillary line. As the body lay on the post-mortem table, the pericardial sac sat like a saddle upon the lungs, partially depressing them into the hinder part of the chest cavity. The pericardium was thickened; its internal surface was coated with lymph which could be pealed off in layers, and there was still same curdy pus in its interior. The surface of the heart was also covered with the same kind of shreddy lymph, varying in thickness from 3 to 5 mm. On cutting into the heart a little clot was found in the ventricles. The left ventricle was not contracted; its walls were considerably hyperophied. The right ventricle appeared normal. All the valves were quite healthy. There was no trace of endocarditis. The heart-muscle was cut into

slices in a variety of places; but no trace of abscesses, softening, or infarcts was found. [A careful microscopic examination of thin sections has since revealed nothing of importance in this connection.] The condition of the heart and pericardium is shown in Plate III. There was no fluid in the pleural cavities, but a little adhesive lymph was seen along the lower margin of the left lung. The lungs were not collapsed; on section and pressure a little muco-pus exuded from the bronchial tubes. There was a small infarct at one apex. The blood was imperfectly coagulated.

Remarks.—I regret to find my notes concerning the onset of the pericardial effusion very deficient; for on the day that its presence was detected there was already a considerable distension of the pericardium. I must confess that my attention had been occupied almost exclusively with the tibia and the knee-joint. I regarded the girl's condition, which from the first had been most unsatisfactory, as due to septicæmia. Yet I think the onset of the effusion must have been rapid, as it certainly was ill-marked as regards symptoms; for the girl had not complained of, nor seemed to suffer in any way with, her heart, until the date recorded, *i. e.* less than one week before her death. Certainly the distress and the blueness of lips had not occurred before, or they would have been recognised, for besides my own care and observation, and that of the resident officers (whose assistance in the case I take this opportunity of gratefully acknowledging), the patient was most carefully tended by nurses trained to observe and report such conditions.

In the light of subsequent events, I can see that it would have been wiser to postpone irrigation until the already weakened heart had had time to recover (if it would) from the immediate effects of the anæsthesia and of the operation, as well as from the exhausting effects consequent on the greatly increased labour of working within a pericardium so distended with thick pus as was this. I was, however, anxious to completely empty the pericardium; for, from the nature of the pus, its flocculent, membraniform character, I feared it would not escape without help, and that, if retained, it would decompose and be a source of further danger to the child.

On the general question of purulent pericarditis, there are points connected with its clinical history which I should be greatly pleased to have discussed this evening. In what class of cases is purulent pericarditis prone to occur? Is it a primary or a secondary condition? I should also like to learn

something as to its mode of production and onset. I am aware that in a certain few cases purulent pericarditis occurs in association with purulent pleurisy and also with peritonitis, apparently by extension; but the cases are, I think, uncommon, and the quantity of pus is usually small.

Systematic works on medicine point out the occurrence of pyopericardium as a sequel or manifestation of general blood-poisoning. It is said to be specially prone to occur in association with injuries of bone, yet, although I have seen and treated many cases of osteomyelitis and acute necrosis in young subjects, the case now recorded is the only instance in which such a complication has been discovered.

The late Dr. Kirkes, in a very interesting paper published in the *Medical Times and Gazette,* October 25 and November 1, 1862,—a communication which consisted "almost *verbatim* of part of one of the Gulstonian Lectures delivered [by him] before the Royal College of Physicians in 1856,"—entitled "On Pericarditis consequent on Pyæmia," records two cases associated with injury to bone, almost the counterpart of my own case just related. In discussing their etiology, he disputes the then current belief that the effusion is consequent on a general carditis; on this point he says, "Cases of the above kind, where inflammation of the pericardium is found associated with purulent deposits in the muscular tissue of the heart, have usually been described as cases of carditis or acute pus-depositing inflammation of the muscular substance of the heart. But I believe now that this explanation is erroneous, and that the muscular tissue of the heart is not primarily at fault, but is merely, by accident as it were, and in common with other parts of the body, the seat of secondary formations in consequence of contaminated blood, and that the attendant pericarditis is merely an accident of the proximity of some of the deposits to the surface, and, it may be, of their bursting into the cavity." It is very safe to advocate such a mode of causation in cases where "secondary formations" are found to exist, as in his own cases in considerable numbers. But what about cases in which no such cause can be traced?

In the same manner, when the secondary formations occur near the surface of the lungs, general and intense pleuritis may occur. More modern views, I believe, regard these effusions as the product of an inflammation of the serous membrane, very apt to occur in all septic conditions, but brought about without the intermediary of infarcts; for I presume the

"secondary formations" spoken of by Dr. Kirkes, were what to-day would be called breaking-down infarcts.

As to the symptoms, I have already said that nothing occurred to excite my attention until the pericardium was already well distended. Since referring to the literature of the subject, I have been struck with the frequent reference made by authors to the difficulties of diagnosing, and the insidious onset of, this condition. Trousseau* refers to this difficulty, and in further support of the statement, quotes the following passage from Laennec: "I am sure that small effusions into the pericardium (below a pound, for instance) will never give any sign, and that we shall most probably be able to diagnose only those which are much more abundant. Those which exceed two or three pounds may sometimes be recognised." He concludes that we cannot always affirm the existence of a large effusion into the pericardium even when we believe that all the usual signs are present.

M. Roger† also draws attention to the uncertainties of diagnosis, and relates cases in point. Among others a case of "chronic endocarditis with excessive dilatation of the heart, simulating a large pericardial effusion;" also, a case of solid tumour of the mediastinum, in front of the pericardium, which had given rise to a pleuritic effusion. English authors, too, have published cases illustrating the difficulties and uncertainties of diagnosis, and many members of the Society are personally aware how pleural effusions may simulate and be mistaken for pericardial ones, and *vice versâ*.

Probably others besides myself will remember to have seen pyopericardium recognised for the first time on the post-mortem table. Especially in cases of empyema, and notwithstanding that the chest may have been frequently and carefully examined, and the empyema treated, pyopericardium has been first recognised after death. I can call to mind more than one such instance. This evidently shows, I think, that the disease may begin and run its course without any of the symptoms which are said to be characteristic.

When an effusion becomes large, the diagnosis is less difficult; and with the assistance of an exploring syringe it is easy to find out whether the effusion is serous or purulent. I should like to ask this question—Supposing we discover a case of purulent pericarditis, while the amount of the

* "De la Paracentèse du Péricarde," *Archives gén. de Méd.*, novembre, 1854.

† "De la Ponction du Péricarde," *Bulletin de l'Académie de Médecine*, octobre, 1875.

effusion is small, what line of treatment should be recommended? The contained pus is so frequently flocculent and of a nature unlikely to be adequately dealt with through any but a very large needle, that much of it must be left behind, if we content ourselves with aspirating. Is there good evidence that recovery can take place while pus remains in the pericardium? If not, ought not an attempt to be made to open the pericardium more boldly, and treat it as everyone would now treat an empyema? On this point M. Roger says (op. cit.) "the rules of conduct applicable to all forms of abscess will evidently be indicated, and an operation justified in advance." It is certain that small empyemata may undergo spontaneous cure: just a few times I have found appearances in the post-mortem room, in cases where death has resulted from quite other causes, clearly indicative of cured empyema; but I think few physicians would advocate expectant treatment as a rule of practice in the hope of securing such a result. The same may probably be said for some cases of purulent pericarditis; such cases must, however, be very exceptional. I should be pleased to hear the experience of members on these points.

Then granting that free incision and drainage are the proper treatment to pursue, at what spot can the pericardium be most advantageously opened, and how is this to be accomplished? Some time ago I made a considerable number of trials on the dead subject in children, with a view to determine this question. My mode of procedure was to pass in long needles before removing the front of the thorax; then to remove the sternum and cartilages in the usual manner, leaving the needles *in situ*. The result of these trials was to lead me to adopt the fourth left interspace, close to the sternum, as the most generally appropriate spot. In the case I have related, I cut down deliberately on the pericardium and stitched it to the chest wall, removing about an inch of the fifth costal cartilage, in doing which an attempt was made to shell it out of its perichondrium, as the rib is shelled out of its periosteum when operating for empyema.

This spot, besides being all that is necessary and desirable as regards the heart, further meets an essential surgical indication, viz. it places the external opening in a position which will longest secure for the pericardial sac the most direct communication with the exterior of the body. Were the right fourth space chosen instead of the left, the pericardium, in emptying itself and retracting back towards its normal posi

tion, would tend to recede from the external opening (which, of course, is a fixed point), and so make the channel of communication long and tortuous. At the spot I suggest even a slightly distended pericardium will be got at without difficulty, and if the plan of deliberately exposing it be generally adopted all danger of wounding the heart, whether a scalpel or trocar and cannula be used, will be avoided, while precision in the diagnosis will be assured. The internal mammary artery is out of harm's way; in my case nothing was seen of it.

One great difficulty in operating in such cases will be the anæsthesia, and unfortunately the more urgent the disease the greater the danger. Is this not an argument in favour of early treatment, before the heart-muscle is entirely exhausted? As regards irrigation, I find on looking over reported cases, and I know from observation, how frequently the pus in this form of pericarditis is of a flocculent shreddy character; this must be got rid of thoroughly if the operation is to be successful. I do not see, because my case ended fatally, that irrigation is to be condemned or considered as contra-indicated, provided there is a free exit for the irrigated fluid; and if the patient be closely watched, irrigation may, I still think, be usefully employed whenever the nature of the pus seems to demand it. I shall be glad to have this point discussed.

I presume that our views concerning the recognition and the treatment of pericardial effusion will have to pass through various developments, similar to those through which empyema has passed, before we shall succeed in making any striking progress in these directions. It seems to me quite possible that the same treatment which has proved so eminently satisfactory in pleuritic effusions may prove equally successful in those of the pericardium, if done with equal care and boldness; and that considerable benefit may be hoped for, in doubtful and suspected cases, by exposing the pericardium with a view to exploration and as a preliminary to further measures if necessary. We now know that danger after surgical operations depends in a large measure on a septic condition of the wound and its products: may we not hope, as our methods of preventing and of treating septic conditions improve, that we shall be able to bring even the pericardium successfully within the range of surgical therapeutics.

Fig 1.

Fig 2.

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Abdomen natural, nothing abnormal detected; *urine* acid, sp. gr. 1028, gives a trace of albumen.

Patient slept pretty well on the night of the 20th October; next morning (October 21) cyanosis had increased somewhat and it was determined to bleed the patient, but this was postponed owing to an improvement again setting in. At about 12.20, however, patient suddenly got out of bed, before the nurse could prevent him, and on reaching him in a few minutes he was found to be moribund. An opening was immediately made into the median basilic vein, but patient only gave a few gasps and fell back dead at 12.25, only about an ounce of blood having been obtained.

Post-mortem (twenty-four hours after death).—The body was opened in the usual way, but the veins of the neck were first dissected out. *Right pleura* contained 1½ pint of reddish fluid. *Left pleura* rather less.

All the superficial veins at the root of the neck were greatly distended with blood. The external jugular and cephalic veins of the left side were greatly enlarged, as was also the anterior jugular and the cross branch connecting it with its fellow of the opposite side.

The left internal jugular vein was filled with a firm, adherent, decolourised clot, at the lower part of its course before joining the subclavian, and this was apparently of considerable age.

The right internal jugular was enormously distended, being almost an inch in diameter at its lower part.

The left axillary vein was greatly enlarged, and there were many enlarged veins in the axilla passing through the chest wall and placing the axillary vein in communication with the intercostal veins.

The right axillary vein was also much enlarged, but on this side no great distension of the small veins of the axilla was found.

The vena azygos major was considerably larger than normal, and the left azygos veins, as well as their tributaries, were also much enlarged, particularly the latter.

The right innominate vein was enormously distended, and contrasted greatly in appearance with the left, which was very small, and became impermeable about one inch from its commencement. From this point onwards it was involved in, and blended with, the wall of the aneurysm, which was seen as a soft flabby sac occupying the anterior and superior mediastina, and displacing the right lung, so as to come in contact with

the chest walls in the second and third right intercostal spaces.

The aneurysmal sac was seen on opening the pericardium to have involved the whole of the ascending, and also the greater part of the transverse, portion of the arch of the aorta. The shape of the sac somewhat resembled the heart itself, the base being upwards and to the right, the apex downwards and to the left. The sac was flattened from before back, the greatest expansion having occurred towards the right. The extension in this direction had taken place to such an extent that the superior vena cava was lying behind the aneurysm instead of to the right of the aorta.

The left vagus nerve was flattened out on the anterior surface of the sac but was very readily dissected out.

The heart was displaced downwards and to the left, and was opened *in situ*. The substance of the heart was soft, and the right cavities were dilated and very slightly hypertrophied. The aortic valves were incompetent, the finger passing very easily from the aorta into the aneurysmal sac. Other valves healthy.

The right innominate vein was then opened, and this vessel and the superior cava were then carefully slit up with a pair of blunt-pointed scissors. About one inch and a half from the commencement of the vena cava superior a diamond-shaped opening, about a quarter of an inch in diameter, was found, placing the vein in communication with the aneurysm. This opening into the vena cava superior was situated just above the spot where the vein perforated the pericardium. The edges of the opening were distinctly rounded although thin, and there was no appearance of any recent tear or rupture of any kind. On opening the aneurysm it was found to have thin walls, and to contain some 10 oz. of dark blood-clots with fluid blood. No deposit of fibrin. A second aneurysm was found at the junction of the thoracic and abdominal aorta, 3½ inches long, the walls of which were covered with laminated fibrin.

Abdominal aorta, femorals, and cerebral arteries healthy.

Lungs: Emphysematous with bronchitis.

Liver weighed forty-nine ounces; was cirrhotic.

Kidneys showed early fibrotic changes.

The interest of this case lies principally in: (1) The rarity of its occurrence. (2) The question as to when the rupture occurred. (3) The significance of the murmur heard over the aneurysm during life.

On searching the records of aneurysms communicating with the vena cava superior, we find that during the last half century such an accident has occurred but rarely.

In 1868 Dr. Peacock submitted seven instances of the accident, collected from various sources, to the Pathological Society. They are to be found in the twenty-ninth volume of the *Transactions* of the Society.

There is a great similarity in all these cases, especially in the appearances caused by obstruction in the vena cava superior, a condition which was well shown in a case of Dr. J. Kingston Fowler's, reported in the sixteenth volume of the *Transactions* of the Clinical Society. In only one of the cases sudden death resulted, in the others the average duration of life after the communication occurred was about seven days. The openings in all cases were small.

In 1885 Dr. F. Charlewood Turner reported a case which occurred at the London Hospital, and which is to be found in the thirty sixth volume of the *Pathological Society's Transactions*, and in 1887 (vol. xxxviii, *Path. Soc. Trans.*) Dr. Gulliver showed as a card specimen an aneurysm which had also opened into the vena cava superior.

It is more than probable that other cases have occurred, but have not been published, and we have only been able to find reports of nine cases in the last fifty years, so that the condition is certainly an uncommon one.

Dr. Peacock's cases are from a group of forty-three aneurysms rupturing into the heart or adjacent vessels, and his analysis tends to show that the pulmonary artery is a much commoner vessel than the superior vena cava for such a communication, in the proportion of nearly $2\frac{1}{2}$ to 1.

With regard to the date at which the rupture occurred, it is at anyrate certain that on October 8 no such communication existed, for when the patient was seen at this date there was an entire absence of lividity, and œdema of the face and arm. According to the patient's history, about ten days before his death he was seized with pain in the neck, and at the same time his neck became swollen. This was followed a few days later by considerable swelling of the right arm. Hence it is probable that the rupture took place either at this date, or shortly before the patient's death. The characters of the opening, however, with its rounded edges, do not agree very well with the hypothesis of its only having existed for a short time before death, and would fit in much better with the view that the rupture occurred some ten days previously. If

the rupture had been the actual cause of death one would have expected to have found a ragged opening more or less indicative of a tear, but nothing of this kind was seen. The view that the rupture occurred some ten days before death is confirmed by the existence of the curious murmur that was heard over the aneurism and for which previously to the post-mortem no explanation was suggested; the diagnosis that was made being that of an aneurysm of the arch of the aorta pressing on the right innominate vein, since the œdema was almost confined to the right side of the head and neck and the right arm.

The murmur at first seemed like a double aortic murmur, but on more careful auscultation it was detected that although the latter part of the murmur differed in pitch and intensity from the first part yet there was no pause between these two parts. The murmur was in fact continuous, diminishing in intensity during the last part of the diastolic period and increasing in intensity during the systole.

From these considerations, and also from the situation of the point of maximum loudness of the murmur, we think that it was produced at the orifice, placing the aneurysm in communication with the vein, and that in all probability this rupture took place some ten days before death.

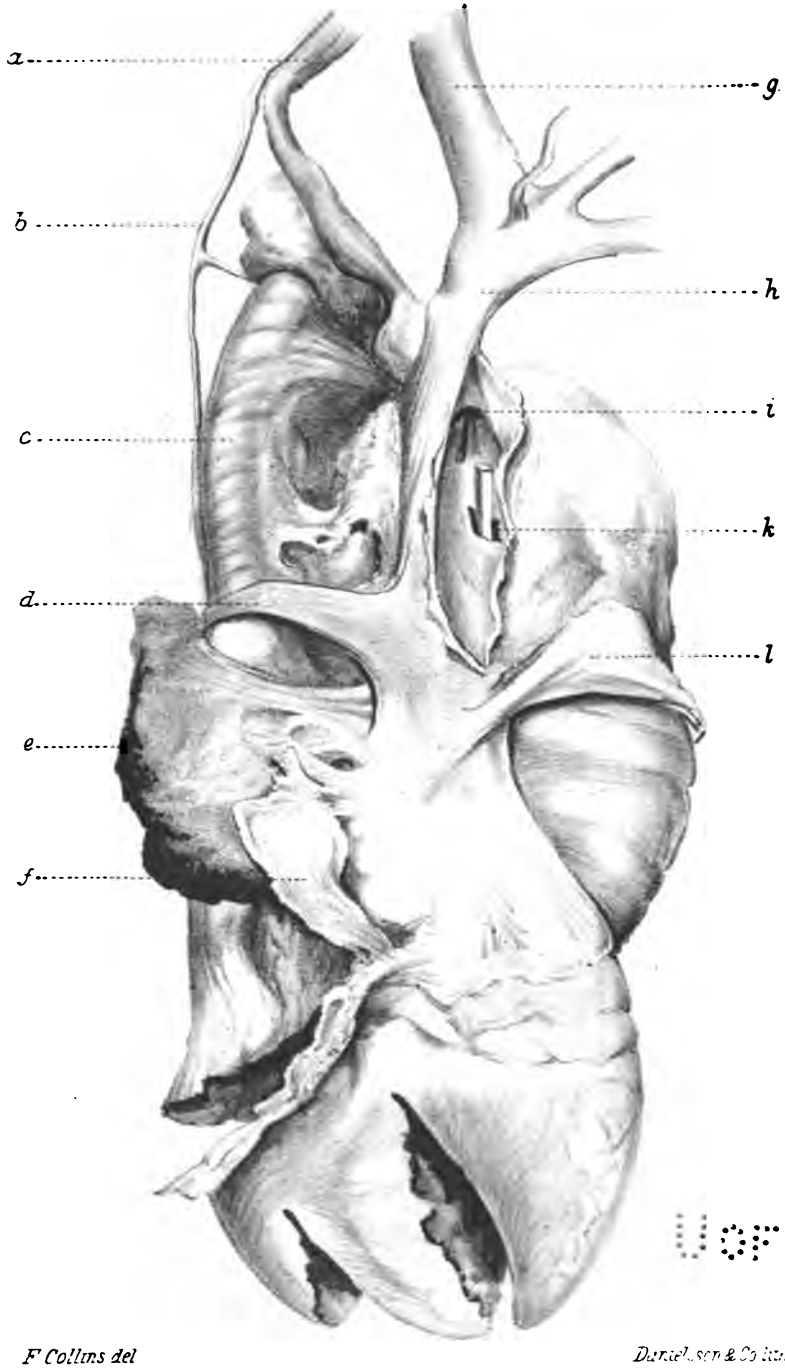
Owing to the complete obliteration of the left innominate vein one might have expected some, if not considerable, œdema on the left side. This obliteration, however, although complete was probably very gradual in its onset, and quite different to the very sudden obstruction produced on the right side at the moment of rupture. On the left side there were a number of channels by means of which the blood could return. Thus, from the arm it would go through the axillary into the subclavian vein, from here, *via* the external and anterior jugular veins of the left side, into the anterior jugular of the right side. The left cephalic, transverse cervical, and supra-scapular veins would also assist in this collateral circulation.

Further, the axillary vein communicated by many enlarged branches in the axilla with the intercostal veins, and thence by the left azygos veins the blood reached the vena azygos major. The blood of the internal jugular vein could reach the heart owing to the communications existing between the tributaries of this vessel and the corresponding ones of the opposite side, as in the thyroid body, where the veins were found greatly enlarged. The blood of the vertebral vein could return through the deep cervical vein and reach the

DESCRIPTION OF PLATE IV.

Dr. Arkle's case of Aortic Aneurysm. From behind.

(*a*) Left carotid artery.
(*b*) Left vagus.
(*c*) Trachea.
(*d*) Left azygos vein.
(*e*) Root of left lung.
(*f*) Pericardium.
(*g*) Left internal jugular vein.
(*h*) Left vena cava.
(*i*) Obliterated left innominate.
(*k*) Opening of aneurysm
(*l*) Pericardium.



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axillary and subclavian vein, owing to the very free venous anastomosis existing amongst the back muscles.

The cyanosis in this case was extreme because, besides the actual damming up of the circulation in the vena cava superior, by the pressure of the aneurysm and the obstruction caused by the blood flowing from the sac into the vein, the blood that was sent to the lungs by the right ventricle must have been a mixture of arterial and venous blood.

From a clinical aspect, it is not too much to suppose that the condition may be actually diagnosed during life, if an opportunity of carefully examining the patient is afforded. The signs and symptoms of obstruction in the vena cava superior are fairly constant in every case, and were most accurately described in the earliest case on record. The œdema and lividity of the face, arms, and upper part of the thorax, the firm collar of œdema round the neck, with general enlargement of the superficial veins of chest, contrast most strongly with the usually natural appearance of the abdomen and legs, and form a clinical picture which is pathognomonic.

If in addition to this, pulsation is obtained in the right infraclavicular region, with deficient resonance on percussion, and on auscultation a murmur occupying, the whole of the cardiac cycle, continuous, but having a point of maximum intensity with each contraction of the heart, the occurrence of aneurysmal varix is highly probable.

XIV.—*On a cause of Speedy Death in heart disease, with cases.* By Thomas Oliver, M.D. *Read December* 14, 1888.

WITHIN the last few years I have been startled by the unexpected and somewhat rapidly fatal termination of some of my cases of heart disease. Now and again a case has been progressing quite favorably, and then all at once, and without any apparent cause, the patient has complained of epigastric pain, increased by pressure, and of vomiting. The symptoms have come on rather suddenly and have nothing in common, at first sight at least, with the gastric uneasiness and vomiting met with in the later stages of mitral and tricuspid regurgitation, where the liver is enlarged from long-continued venous engorgement. Aortic regurgitation has furnished the largest number of cases which have thus been speedily fatal, but I am inclined to think that no form of cardiac lesion is spared the tendency. The history of the illness, which is spread over two or three days, or only a few hours, is briefly this. Whilst a patient is being treated carefully, so far as rest in bed and a well-arranged diet are concerned, and whilst taking the ordinary cardiac tonics, but no one of them in particular, or even, as in some of my cases, where no cardiac tonic has been taken at all, patient's condition having rather improved than otherwise, he all at once begins to complain of vomiting and of epigastric pain—pain which is increased by pressure and by the presence of food in the stomach. In none of my cases has the vomit been bloody, nor has there been melæna. The pulse becomes rapid and small, the cardiac murmurs remain much as before, only, if anything, they are less audible; the face becomes pale, pinched, and anxious looking, and in a few hours collapse sets in. Nothing seems to relieve these symptoms: the patient dies, never having rallied from the collapse. At the autopsy, whilst the heart reveals evidence of the disease for which the patient may have been treated, the stomach, and generally the duodenum, are found to be the seat of a diffused intense inflammation. All of my cases, seven or eight in number, have been between the ages of thirty and forty-five, and all were men. Most of them had been intemperate, but three of them had not

taken spirits for several months previous to their coming under my care. Until the period at which the vomiting actually occurs there is nothing, so far as I have been able to make out, in the history of the patient or in the progress of his illness, to lead one to suspect a tendency to gastritis. I shall give very briefly the record of three cases.

A saddler, æt. 40, was admitted into the Newcastle Infirmary suffering from shortness of breath. He had double murmurs over the aortic area and a systolic murmur over the mitral. There was no albuminuria. He was ordered five minims of tinct. convallaria with fifteen of sal volatile in some chloroform water thrice daily. In five weeks he expressed himself as feeling all right and fit for work. At this juncture, and when he was apparently well, vomiting set in rather suddenly, accompanied by epigastric pain. The vomiting was not severe at first; it consisted chiefly of mucus and the liquid food which he had taken. This continued for two days, when he looked pale and haggard. Vomiting now ceased for about twenty-four hours; it then returned and he died shortly afterwards in a state of collapse. At the post-mortem the aortic and mitral valves were found diseased; the stomach was markedly congested; its surface was generally inflamed, being of a bright vermilion colour and studded here and there with hæmorrhagic points. The small, and part of the large, intestine showed signs of inflammation.

The second case is that of a man æt. 37, in whom there were double murmurs over the aortic area and a systolic over the mitral, and for whom a mixture containing three minims of tinct. digitalis and four of tinct. belladonna with fifteen of sal volatile had been ordered to be taken thrice daily. In a few weeks he was practically relieved of all his symptoms. One day, however, he complained of epigastric pain and vomiting, and his medicine was at once stopped. A bismuth and soda mixture was taken for three days without benefit; this was afterwards changed for one of oxalate of cerium and bismuth, but on the sixth day he died, the symptoms being those of acute gastritis, confirmed post mortem.

The third case I shall report is that of a gentleman æt. 43, whom I saw in consultation with Dr. Farquharson, of Newcastle. He was the subject of aortic and mitral regurgitation and of angina pectoris. His anginal symptoms had been relieved by nitrite of amyl, but no relief to his breathing or cardiac distress had come from strophanthus, which he had been taking. He was ordered five minims of tinct. convallaria,

four of tinct. belladonna, and three minims of liq. arsenicalis thrice daily. Several days after this he expressed himself as feeling, and to all his friends he appeared, much better. The arsenic was now discontinued, and for a few days longer he took the convallaria and belladonna. Three days afterwards he complained of severe epigastric pain accompanied by sickness and followed by collapse. Within ten hours after the vomiting commenced patient died suddenly, the immediate cause of death no doubt being cardiac, and yet the end undoubtedly hastened by what was a veritable gastritis.

When death has followed a few days after a continuation of the symptoms just described I have carefully examined the prescriptions and made inquiries as to the food partaken of by the patient, but in no instance beyond the eating of a raw apple by a patient whom I had left sitting up in bed feeling as he said quite well and reading the newspaper, and who died sixteen hours after from symptoms of acute gastritis confirmed by post-mortem examination, have I found evidence leading me to suspect the entrance into the stomach of anything like a strong irritant. Sometimes the principal ingredient of the mixture the patient has been taking has been digitalis; of this I seldom give more than from three to five minims of the tincture. Sometimes convallaria has been the drug, but here again I seldom give more than five minims of the tincture. Believing that one of the alkaloids of convallaria has rather an irritating action upon the gastro-intestinal mucous membrane I was at first inclined to blame the convallaria, but as death occurred from gastritis in cases of heart disease where no cardiac tonic had been taken, it is clear that the speedy death could not, in those cases where convallaria had been given, have been absolutely dependent upon the drug.

What then is the cause of this gastritis? Dr. Ord, at a late meeting of the Medical Society, drew attention to the coexistence of symptoms of gastric ulcer and peri- and endo-carditis in young women the subjects of anæmia, an association which suggested the probability of the endocarditis being consequent, and in some way or other dependent, upon the morbid state of the lining membrane of the stomach. The functional derangements of the heart and respiration due to the disordered states of the stomach are matter of everyday experience to all of us. Does reflex action ever show itself in a manner the reverse of this, viz. from the heart to the stomach? Of the very intimate relationship which exists between heart and

pneumogastric nerves we need not speak. The complex functional relationship of these nerves is seen in their wide anatomical distribution to lung, heart, stomach and other abdominal organs. The gastric plexus is composed of fibres which come from both vagi and the sympathetic system, and we know that section of the vagi is followed by hyperæmia of the gastric mucous membrane. Could there have been, therefore, in the cases which I have described, an impression or impressions carried from the heart to pneumogastric centres in the medulla oblongata, whereby the normal impulses, which descend these nerves and keep the vessels of the gastric mucous membrane in a state of tonus, have been removed, and with the balance thus broken what would have been under normal conditions, from the presence of food or other material in the stomach, a reflex hyperæmia easily recoverable from, now passes into an acute gastritis or a gastro-enteritis? I cannot but think that whilst the condition of the heart cannot of itself be regarded as the cause of gastritis in these cases, yet there must have been reflexly induced, in some way or other, a reduction of the restraint normally exercised by the vagi upon the vessels of the stomach, whereby substances that had hitherto been, and under other circumstances would be, harmless, had now come to exercise an irritating influence upon the gastric mucous membrane, setting up a gastritis, and had thus hurried on a fatal termination which would in all probability have been postponed at least for weeks or months. The absence of albuminuria in most of these cases, and the absence of suppression of urine in all of them, enable us to say that the gastro-enteritis could not have been due to the action of carbonate of ammonia consequent upon decomposition of urea which the gastric mucous membrane might be supposed to have been vicariously eliminating.

I am inclined to think, therefore, that gastritis of a more or less acute character occurs not infrequently in the course of heart disease, that its appearance is not a coincidence, for the two diseases seem to stand causally related to each other through the medium of the pneumogastric nerves, and that the presence of gastritis precipitates the fatal termination of the case. I am convinced that a more frequent examination of the stomach of those who have died from heart disease will reveal the existence of a gastritis that explains the mode of dying in some of those cases or the existence of ulcers which may never have given rise to symptoms.

XV.—*A case of Summer Eruption recurring with great severity for many years, but finally getting well (a form of Kaposi's disease).* By JONATHAN HUTCHINSON, F.R.S. *Read December* 14, 1888.

THE case which I have to narrate is in some features similar to the malady known as Kaposi's disease, although it does not quite complete the picture. A boy named Alfred J. Hayes, living in Dalston, and then æt. 8, was brought to me on May 13, 1876, at the London Hospital, and has remained under my observation more or less up to the present time. During the first six years of this period his malady appeared to be incurable and to be little if at all influenced by remedies. As in Kaposi's disease, it consisted in an eruption in which the exposed parts, that is the face and hands, suffered most severely, but it was by no means confined to them. It was distinctly influenced by season, and was always worse in summer weather. There was no history of similar liability in other members of the family, and the boy had six brothers and sisters living, of whom he was the youngest. The history given was, that when he was two years old, blebs or vesications "like vaccination places," came on the face and hands and left scars when they died away. Every summer afterwards an outbreak of the same kind occurred, and on one occasion almost the whole of his body was affected. The eruption several times lasted from the early summer till near Christmas. The scars which had been left were very much like those of vaccination. They occurred chiefly on the extensor surfaces of the upper and lower extremities and on the backs of the hands. There were many also on the face, but here they were partly concealed by the eruption, which was then freely out. The condition of the eruption may be best appreciated by examining the portrait which was then taken. It shows the nose, cheeks, and ears covered with angry-looking vesications, which are arranged with tolerable symmetry, and are of various sizes, from a split pea to a shilling. These vesications showed a tendency to spread at their edges and to sink in the centre, and had in many places coalesced into irregular patches. None of them presented the rounded and

elevated form of the pemphigus bulla. They rapidly dried up, leaving yellowish crusts. On the forehead the portrait shows several conspicuous scars. There had never been much pruritus, the excoriations having been too sore to be scratched. There was no history of his having had either chicken-pox or smallpox. The above notes describe the boy's condition at the time this portrait was taken in 1876. I saw him repeatedly during the next few years, and he was regularly under treatment every summer. We gave him arsenic and tonics and tried a variety of local remedies, with more or less of temporary benefit. It would be profitless to reproduce the detailed notes, and it will be sufficient to quote the summary which I made six years later (October 28, 1882). I then wrote, "He is now aged fifteen and still liable to his eruption every summer; he attributes it to the sun; it lasts him more or less all the summer, but sometimes disappears for a time; it quite prevents him going on with any business, for while the spots are out everyone takes it for smallpox. It is much milder now than it was when the portrait was taken, and never now comes out so severely as formerly. On one occasion only has he had it on his hands. It has left the whole front of his face and bridge of his nose covered with scars, and his ears have been reduced to thin gristle. There are a few scattered, white, thin scars on his body. On inquiring as to liability to chilblains, I find that neither he nor any of his brothers or sisters have ever had them severely. He reports the rest of the family as quite healthy."

My next note refers to the present date, October 28, 1888 (six years after the preceding one), when he came in answer to my request, for I had not seen him for several years. "He is now twenty-one, and though slightly grown may be considered to be in good health. His skin disease has been practically well for several years and the eruption did not return in the least even during the hot weather of last summer. There is a little scaly eruption on the outer edge of one ear, and, excepting the scars, that is the only trace of his disease which persists. His face, however, is scarred all over, and so also are his hands. His ears, as described in the last note, are almost reduced to cartilage covered by thin scar. His recovery was gradual, and it is impossible to assert anything as regards the influence of treatment. The eruption came out less and less each succeeding year."

This case may be suitably placed by the side of a group which I described many years ago under the name of summer

prurigo,* and of which the best example then recorded occurred in the instance of a boy named Pennmann, whose portrait is published in the New Sydenham Society's Atlas; in him, as in the subject of this case, the eruption occurred every summer for many years, and finally disappeared at about the age of twenty, leaving his face and shoulders covered with scars. The influence of the sun in producing the eruption appeared to be equally well marked in both cases; but the form assumed by the eruption was very different. In Pennmann it was only a sort of erythematous acne, whilst in this case it consisted of large vesications. In each instance only one member of the family was affected. I have, however, recorded in the same lecture as Pennmann's case an instance in which a girl aged fourteen, and two of her brothers, had suffered for several years, during the summers, from the same malady. In the case of the boy Pennmann, although the eruption was worst on his face, neck, shoulders, and hands, yet it occurred more or less over the whole surface; exempting, however, absolutely, the palms and the soles and the flexures. The term prurigo is obviously not applicable to such a case as that which has been above described, for the itching was always a very minor matter. Even in the case of Pennmann, the itching had never been extreme and had never interfered with his rest. It was chiefly because the cases, from their long duration or resistance to treatment, as well as the character of the eruption and the fact of beginning in infancy, bore a certain resemblance to Hebra's prurigo, that I continued the use of that word. It would be better perhaps to call them simply recurring summer eruptions.

If we now compare these cases with those to which the name "Kaposi's disease" is appropriate, we shall find that the differences are mainly those of degree. In Kaposi's disease, as in these, there is a congenital susceptibility of the skin to external influences, of which exposure to air and sun are the most injurious. The disease begins usually by the production of very abundant freckles, and then goes on to the formation of stigmata, ulcerations, and fungating granulation

* "Summer Prurigo, *Prurigo æstivalis* seu *Prurigo adolescentium* seu *Acne prurigo*," a Clinical Lecture (see *Rare Diseases of the Skin*, p. 126).

† See p. 133, *Rare Diseases of Skin*, Hutchinson. In this lecture several other cases similar to Pennmann's will be found described. All the more characteristic ones began in young children. In some cases, however, I had noted a liability to a pruriginous form of erythematous acne occurring in summer and evoked apparently by exposure to sun, beginning in adults who had not suffered in infancy.

PLATE V.

To illustrate Mr. Hutchinson's case of Summer Eruption—a form of Kaposi's disease.

Fig 1.

Fig 2.

Danielsson & Co, c

PLATE V.

To illustrate Mr. Hutchinson's case of Summer Eruption—a form of Kaposi's disease.

F. Burgess, pinx.

Fig 1

Fig 2.

Danielsson & Co, chr

XVI.—*A case of Circumscribed Scleroderma (Addison's keloid) situated upon the right arm, and accompanied by partial atrophy of the adjacent muscles, in a child, also the subject of congenital stenosis of the pulmonary artery.* By Cecil Y. Biss, M.D. *Read December* 14, 1888.

A. B., æt. 15, the daughter of a coast-guardsman, was admitted into the Middlesex Hospital under my care, on April 2, 1888. She was a well-developed girl of healthy appearance, without any history of previous illness except that when quite young she had had whooping-cough and "inflammation of the lungs." The catamenia had not appeared. She was born at Margate, and had always resided at seaside places. Both her parents, and all her brothers and sisters, four in number, were living and healthy. She had always enjoyed good health, but it had been observed that any attempt to run put her so much out of breath that the effort had to be discontinued. About four years ago she had noticed for the first time a patch of hard white skin on the outer side of the right arm a little above the elbow, and this induration has been gradually extending upwards ever since, accompanied by occasional itching and a frequent feeling of "cramp" running down the arm to the fingers, especially the index finger and thumb, the pain being occasionally attended by a flexor spasm of one or both of those digits which might last as long as four or five minutes. It had been observed also that the upper part of the right arm and forearm had been markedly wasting, and that the arm and hand had got weaker. She had never suffered any local injury, nor had the skin ever been previously affected in any way.

Physical examination.—The complexion is clear and healthy, but with a little diffused lividity which readily intensifies on any exertion. On the skin of the outer side of the arm there is a whitish, indurated area, the tissues underlying which seem to be thickened and adherent to the more superficial layers; the surface is depressed, glazed, pale, and mottled in the centre, and shows a little epidermal desquamation. This area may be defined as commencing above in the groove between the del-

toid and triceps, passing downwards in a spiral manner along the outer side of the arm, and forwards to its anterior surface, terminating an inch above the elbow-joint. It measures 10½ inches in length, and its breadth in the upper part is 4⅛ inches. It diminishes in width downwards. There is no pain felt at any point when the arm is handled, and there is no loss of sensation, nor of ability to feel pain, even over the indurated area. The hand is of normal size and natural appearance, and the finger-tips are not altered in shape or colour. The skin around the lower parts of the altered area is vascular and mottled, while that around the upper (*i. e.* newer) portion is much pigmented, and looks like a fading bruise. No other portion of the skin in any situation is affected. The general nutrition is good to the extent of plumpness, and this makes the degree of wasting of the right arm specially noticeable. That shoulder is a little lower than the other; the bony points stand out with abnormal prominence; the outer arm is flattened, and the roundness of the parts lost. The deltoid and triceps appear to be wasted, especially the former; the extensor and supinator muscles of the forearm are wasted, but less so than those already named. The scapula droops a little, and is not quite closely applied to the ribs. Though the girl is right-handed the grasp of that hand is not so good as that of the left. Yet all the motions of the limb are perfect, and the hand can easily be placed on the head. The right arm, at a point three inches below the acromion, measures 9 inches in girth, while its fellow at the same point, measures 9¾; 7 inches below the acromion the right arm measures 8¾ inches, while the left measures 9¼. The right forearm 3 inches below the elbow measures 8 inches, while the left, at the same point, measures 8½. The result of an electrical examination made by Dr. Pasteur, under whose charge the electrical department lies, gives the following result: "Faradic excitability of all muscles of upper extremity well marked (? slightly excessive), galvanic reactions normal."

The chest is well developed and expands freely. The breath-sounds are everywhere normal. The heart's apex beats in the fifth interspace well within the nipple-line; the impulse is natural and the sounds clear at the immediate apex, but above it a thrill becomes perceptible, which can easily be determined to be most intense over the left base; and in the same situation a rough systolic murmur, which is more or less audible over the whole precordia, is heard most loudly.

There is some pulsation and thrill at the episternal notch, but the murmur is not audible in the carotids. There is increased impulse over the lower sternum. The second sound is clear at the base of the heart, rather accentuated at the left side of the sternum, and free from bruit. Nothing abnormal can be found in any other organ.

Treatment.—The patient was placed upon small doses of liquor arsenicalis, and the arm and forearm galvanized daily, after careful massage for a quarter of an hour of all the affected muscles; but no change has been observed in her general health or the condition of the parts in question.

Diagnosis—The correspondence of the case with so many of the known characters of unsymmetrical circumscribed scleroderma enables its identification with that disease to be determined with reasonable certainty. The sex of the patient, the band-like form of the affected area, its whitish hue with surrounding pigmentation and vascularity, the preservation of tactile sensibility, and the cramp-like pains felt in the limb, present sufficiently clear evidence of this. I have, however, thought the case of sufficient interest to bring before the Society, partly on account of the comparative rarity of this form of disease, and partly for the sake of the illustrations afforded of certain moot points in connection with its pathology.

Remarks.—The first of these is the possible etiological relation of rheumatism. This is suggested by the coexistence of a congenital stenosis of the pulmonary artery, perhaps due to an attack of intra-uterine rheumatism. Admitting that this condition is indefinite enough to warrant a measure of doubt, it is nevertheless quite possible, and indeed probable, that the cardiac condition was of rheumatic origin; and this link will, if allowed, bring the case into line with those recorded by Sir Dyce Duckworth, Dr. Radcliffe Crocker, and other observers, in which rheumatism and cardiac valvular disease, singly or together, have been noticed in association with scleroderma.* As this association is not unfrequent, and as in a good many cases of the more acute type of scleroderma the outbreak is apparently elicited by the action of cold or wet—well-known provocatives of rheumatism—it is really only the cases which are not associated with obvious rheumatic symptoms that are difficult to explain; and even these may not unreasonably be compared to those known as

* *St. Barth. Hosp. Reports*, vol. xx, p. 124; *Edin. Med. Journ.*, 1888; *Lancet*, Feb. 7, 1885, p. 237.

"masked rheumatism," in which, after anomalous febrile and other symptoms, a valvular bruit breaks out and reveals the incidence of endocarditis, the real rheumatic origin of which may be subsequently attested by a separate attack of undoubted rheumatism with arthritic manifestations. Furthermore, the character of the lesions is suggestive. Rheumatic irritation of certain tissues, such as the endocardium, sets up a series of changes which may not inaptly be compared with the slow-running fibrotic thickening and rigidity followed by contraction, noted in scleroderma. It may also be remarked that certain subcutaneous lesions are known to exist which are reasonably referable to rheumatism, so that the influence of that disease upon the lower layers of the integument is not hypothetical; and even if the nodular indurations found in erythema nodosum be excluded from rheumatic causative relations, the subcutaneous nodules, so fully described by Drs. Barlow and Warner, which have been found by them and other observers in rheumatic persons, and regarded as connected with that disease, must be allowed to be very probably of rheumatic origin.

The next point is the amount of countenance which the present case appears to afford to the views advanced by Hutchinson* and others regarding the influence of the nervous system in the production, or possibly only the determination to certain localities, of sclerodermic changes. The arguments by which this contention is supported are, briefly, the following:—1. An asymmetrical distribution of the lesions as the rule—exceptions being admitted. 2. The tendency to spontaneous disappearance. 3. Probable connection with rheumatism, that affection being regarded, on separate grounds, as of neurotic character. 4. The concurrence of the indurations with areas corresponding to the distribution of certain nerves. 5. A corymbose grouping, in some instances, of the whitish spots, as in herpes, suggestive of their relation to the terminal fibrils of the affected nerves. 6. Numbness, pain, tingling, and similar symptoms affecting sensation. Now, it must be admitted that, if the above reasoning is allowed to have force, it would gain some support from the case under notice, seeing that there are certain points of marked coincidence with those specified, the chief of which are the following:—1. The asymmetry of the skin lesion. 2. Its position in relation (roughly speaking) with the musculo-spiral nerve, and

* Hutchinson, *Rare Diseases of the Skin*, p. 313; Radcliffe Crocker, *Lancet*, May 23, 1885, p. 929.

its apparent influence upon the posterior interosseous and radial nerves. 3. The progression upwards of the skin lesion following somewhat the course of the musculo-spiral nerve. 4. The wasting of the adjacent muscles—mostly those supplied by the nerves named. 5. Itching and tingling in the neighbourhood of the affected area, attended by cramp-like pains down the arm and in the thumb and index finger, and even muscular spasm affecting those digits. 6. The possible relations of the case with rheumatism, a disease which is held by Hutchinson and others to be, in great probability at least, one controlled by nerve influence.

It would not be suitable to my present objects to discuss the abstract question of the neurotic relations of scleroderma, and I content myself, therefore, with indicating and placing on record those points in which the present case corresponds with the features described by others as suggestive of the influence of the nervous system in this disease. There is, however, one question on which I venture to add a few observations on account of its intrinsic interest, namely, the wasting of the muscles adjacent to the affected area.

The first point of remark is that muscular atrophy is by no means a constant concomitant of scleroderma. I have been unable to obtain records of a sufficiently large number of cases to warrant any statistical statement upon the point, but from such information as I have, I venture to think that nearly as many cases are found without as with muscular atrophic changes; while these changes are of such frequent occurrence as to preclude all possibility of their being of merely accidental association. Among seven cases described in detail by Dr. Hilton Fagge from the records of Guy's Hospital, muscular wasting was noted in three only. The causes of the atrophy are obscure, and as far as I am aware, have never yet been satisfactorily elucidated. Are they of local causation? Or are they due to changes in the central nervous system, or in the peripheral nerves? The results of careful electrical examination in my case appear to exclude the possibility of peripheral degeneration or other changes in the nerve-trunks, while the same evidence points away, almost in equal measure, from a local affection of the spinal cord, unless indeed it be supposed that there had been a very limited lesion of the corresponding anterior horn, so limited as to leave the electrical reactions unaltered. In this

* "On Keloid, Scleriasis, Morphœa, and some Allied Affections," *Guy's Hospital Reports*, vol. xiii, p. 265.

case, however, the marked atrophy of the muscles would be altogether out of proportion to the lesion to which those atrophic changes would be referred. Yet, while considering the possibility of a nerve lesion, it must not be forgotten that the tingling and spasm felt in the hand are more easily to be understood upon that view than perhaps any other, and also that the atrophic changes affect the forearm very distinctly although the skin lesion does not reach beyond the elbow. In this respect one of Dr. Hilton Fagge's cases, already referred to, stands in striking agreement with mine. The patient (Case No. 3, quoted below) had sclerodermic disease on the left thigh (among other localities) and yet the left calf- and foot-muscles were wasted.

Upon the whole it seems most probable that the atrophic changes depend upon the pressure occasioned by the contraction of the sclerotic tissue formed, and that the variation in this respect between one case and another depends upon the depth and directions to which the indurative processes go. It seems reasonable to suppose that, in certain cases, the fibrous sheaths of muscles, and perhaps of portions of the nerves of the part, may become affected by the fibrotic growth as it is formed in the deeper layers of the integument; and that the pressure upon the blood- and lymph-channels, and indeed upon the tissues generally, is the cause of the wasting observed. It is, I suppose, reasonable also to consider that limited pressure thus exerted upon the trunk or branches of a nerve may lead to a measure of atrophic change in the muscles supplied by that nerve or its branches, below the parts pressed upon; and that in this way the measure of atrophy produced in the forearm-muscles—much less, it should be observed, than that of the muscles of the arm—can be accounted for, as well as the tingling and other nerve symptoms referred to the area of distribution of the radial nerve.

Appendix.

The following case (Dr. Addison's third case), quoted from Dr. Hilton Fagge's paper "On Keloid, Scleriasis, Morphœa, and some Allied Affections" (*Guy's Hospital Reports*, 3rd series, vol. xiii, 1867, p. 267) is appended for comparison with that which forms the subject of the present paper:

E. A., æt. 12, living at Ellisfield, in Hampshire. She has a comfortable home and plenty of wholesome food. None of

her relations have suffered from the same disease. Her general health is excellent. When nine months old she was burnt by a piece of hot iron on the left forearm; the sore, however, soon healed up, leaving a scar not so large nor so deep as that produced by vaccination. She has had no other burn or scald. When she was seven years old, a few months after a mild attack of measles, a white spot appeared on her left side, below the breast. This spot was about the size of a fourpenny piece, and the skin around it, over an area as large as a crown piece, was brownish, hard, and inelastic, so that it looked as if the part had been scorched with a hot iron. In a few weeks the brown patch extended greatly, and became much more thickened, puckered, and inelastic. There was no pain on pinching it, nor on pressure.

About six months afterwards a very similar spot appeared on the left shoulder. It was not painful nor tender. In the course of eighteen months it gradually extended around the shoulder-joint and down the upper third of the arm. At the end of this time the skin was shining and hard, and puckered like the cicatrix of a burn; the deltoid and other muscles of the shoulder were so diminished as to leave no appearance of their form; the skin was thickened and seemed to adhere to the bone; there was considerable loss of power and mobility. Subsequently the left hip became affected in the same way as the side and the shoulder.

Up to this time the disease had been confined to the left side, but four years after the commencement of the disease the right shoulder became affected, and on careful examination a small patch of puckered skin, of the size of a sixpenny piece, was found on the right thigh. Of the existence of this small patch the patient was ignorant, but she affirmed that different small spots or patches had made their appearance for a short time and again receded, although the disease had steadily increased as a whole. This spot on the right thigh was carefully watched for several weeks, and appeared to diminish rather than to grow larger.

On November 10, 1852, she was admitted into Lydia Ward under Dr. Addison. The following report was taken of her condition at the time, the account above given having been furnished by Dr. Collingwood, who has kept notes of the case for some years:

"The right shoulder is contracted, hard, and tuberculated, the muscles are wasted, and a strip of skin, about an inch and a half wide, extending from the back of the shoulder to the

inner part of the elbow, is bound to the bone. This part was formerly ulcerated and is the only part which ever was so. It now presents a scaly appearance and is very hard. The left shoulder is more hide-bound, but the disease on this side is confined to the shoulder proper and does not extend far down the arm. On the front of each shoulder is a considerable patch, but the chest is otherwise free. Both the elbow-joints are tightly contracted and permanently bent at nearly a right angle, and the forearms and hands are considerably wasted. The fingers are nearly all bent inwards, and the hands are small, like those of a child of six or seven years old.

"From the lower angle of the scapula a semilunar patch (the original disease) runs round to the mesial line, half way between the umbilicus and the nipples. A large irregular patch exists on the left side immediately below the umbilicus.

"The outside of the left thigh is affected throughout its whole length, together with the whole of the left buttock; the left calf is wasted and measures two inches in circumference less than the right, while the right thigh measures two and three-quarter inches more than the left. The left foot is contracted and the ankle stiff; the toe is pointed downwards, and she walks on the ball of the toe.

"The right thigh is free from the disease, except a small irregular discolouration, about as large as a sixpence, on the front of the thigh. These hard shining places have diminished sensibly and never were painful."

(*Vide* Guy's Hospital Museum, Models 227, 228, Pls. 158^{45}, 158^{65}.)

XVII.—*Sequel of "A case of Epithelioma of the Vocal Cords, for which partial excision of the larynx was performed,"* (vol. xx, p. 56, 1887). By Henry T. Butlin. *Read January* 11, 1889.

IN the account of this case which I communicated to the Society two sessions ago, the history of Mr. X. was carried up to the date of September 28, 1886. He was at that time in excellent health, without any sign of recurrence of the disease. Unhappily it is now my duty to record the fatal termination of the case.

I saw Mr. X. again in February of 1887, when he was still well and free from disease, but in May, 1887, he returned to town complaining that for three or four weeks he had been suffering from a feeling of discomfort in the throat, and that there had been a little difficulty in breathing, with occasional spasm. He had also had an attack of inflammation of the larynx, which had made him very uneasy.

Examination of the larynx discovered œdematous swelling of the left arytenoid and ary-epiglottic fold, which concealed the condition of the parts below. Although it was not possible to be sure that there was recurrence of the disease, we could scarcely doubt that this had taken place.

On June 26 I was summoned into the country and performed tracheotomy. The swelling was at that time greater, and had extended to the right side of the larynx, so that it was quite impossible to see the region of the cords. The difficulty of breathing had become steadily greater, so that the operation had become absolutely necessary. There was not any external swelling of the larynx, or swelling of the lymphatic glands.

During the autumn of 1887, Mr. X. was for several weeks in London, when he attended to many business matters, and went to cricket matches, wearing always his tracheotomy tube (india-rubber).

In the course of the following winter and the spring of 1888 he became slowly worse, eventually suffered much from difficulty of swallowing, from the formation of fistulous passages in connection with the larynx, and finally died slowly

of exhaustion on August 28, 1888, two years and two months after the partial excision of the larynx, and one year and two months after the performance of tracheotomy. An autopsy was not performed.

It is very disappointing to have to record the unsuccessful issue of this case, but it is a pleasure to be able at the same time to record that Mr. X. was quite free from any sign of disease for between nine and ten months after the operation, and that, so far from shortening his life or rendering it in any way uncomfortable, there is not the least doubt that he was made very much more comfortable and happy by the partial excision, and there is good reason to believe that his life was prolonged for many months by the removal of the disease.

I hope to refer to some interesting points in connection with the operation of removal of cancer of the larynx in a short paper which will be read during the course of the session.

XVIII.—*Two cases of Squamous-celled Carcinoma (epithelioma) of the Larynx, treated by thyrotomy and removal of the disease.* By Henry T. Butlin. *Read January* 11, 1889.

In a previous communication to the Society (vol. xx, p. 56, 1887), on the removal of malignant disease of the larynx, I made the following remark: "If I am called on to perform an operation for disease of similar nature and situation on a future occasion, I shall certainly make the attempt to remove it without removing the framework of the larynx. Even if malignant disease extends into the substance of the cartilage there is no reason why the affected area of the cartilage should not be scraped away or treated with the cautery. Experience shows that such a disease as epithelioma, affecting the soft parts over a bone and spreading to the superficial layers of the bone, is far less likely to recur in the bone after removal than in the soft parts. A familiar example may be found in disease of the floor of the mouth affecting the superficial layers of the lower jaw."

Since then I have had two opportunities of putting this design into execution.

Case 1.—Mary Ann S., æt. 27, came under my care in the Department for Diseases of the Larynx at St. Bartholomew's Hospital in May, 1887, complaining that she had gradually lost her voice some ten or twelve months previously. She was of delicate appearance, pale, thin, and only able to speak in a whisper, which had no sound of voice in it. She had never suffered from any previous illness, but had never been strong.

Examination of the larynx discovered a warty growth of pale red colour almost at the commissure (Fig. 11), and apparently projecting from the margin and upper aspect of the right vocal cord. In the course of a week, on her second attendance at the hospital, I removed a fragment with the cutting forceps, and, fortunately, had it cut in sections for the microscope. To my astonishment, it exhibited the structure of squamous-celled carcinoma (epithelioma) in so far that the sections were

infiltrated with squamous epithelium in irregular columns, between which the tissue was full of leucocytes (Fig. 12).

FIG. 11.

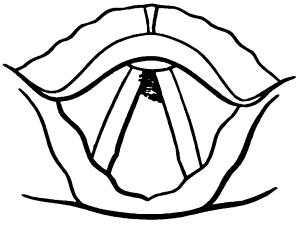


FIG. 12.

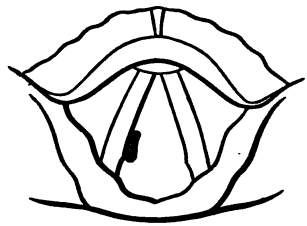
The epithelium composing the columns was irregular in size and shape, and there were many cell-nests—not the regularly formed cell-nests which are often found in healthy epidermis, but the cell-nests which usually occur in epithelioma. I made a note to the effect that the tumour presented the microscopical characters of epithelioma, but that I could not believe it to be really so on account of the age of the patient, her sex, the apparently limited area of the growth, and the free mobility of the vocal cord.

During the following seven months she attended at intervals of about a fortnight in the Throat Department, and during that period I removed fragments of growth about a dozen times, but each time she returned with quite as much disease as had been removed, and, although the surface of the cord seemed on more than one occasion to be completely free from growth, her voice was never for a day restored. I felt often suspicious of the nature of the disease, but could not make up my mind that it could be malignant until towards the end of the seven months, when the rapidity of the recurrence, and a lack of mobility of the right cord made me sensible that the tumour must be something more than an active papillary growth. Sections were made of the fragments last removed with the same result as on the first occasion.

She was admitted into the hospital on November 11, and

On the 16th the inflammation had almost entirely subsided, but the cord remained fixed and the growth looked in the same condition as before, save that there was no pus upon it (Fig. 13). I removed a fragment for examination. Sections of this were cut and coloured, and found to be infiltrated with columns of squamous epithelium, with the intervening tissues largely occupied by leucocytes.

FIG. 13.



On the 19th, every sign of inflammation having subsided, an operation was performed of precisely the same character as in the previous case, the only difference worthy of note being that the cricoid cartilage was not divided. The growth was seized with a pair of artery forceps and cut out with the subjacent tissues as freely as if it had been a cancer of the lip. The free border of the right cord opposite to the tumour not presenting a very healthy appearance, was also removed. The surface of the wound on the left side was scraped with a sharp spoon. The wound was left open and treated as in the first case.

On the following day Hahn's tube was removed, but was not replaced by another tube.

The patient began early to take food by the mouth in the ordinary way, and made steady and quick progress to recovery. He left the hospital on August 22, able to speak in a hoarse whisper.

The temperature after the operation never rose above 99·2°, the pulse never above 92.

When last seen, during the month of January, 1889, he was quite well, and free from any sign of recurrence.

My colleague, Dr. Church, has been good enough to permit me to use this case.

Remarks.—Among many points of interest in these cases, I think the following are worthy of attention:

1. The sex and age of the first patient, and the sudden onset of the symptoms in the man. A woman, twenty-seven years of age, was certainly not a patient in whom I should have expected to meet with cancer of the larynx. Probably only about 20 per cent. of patients with laryngeal cancer are females, and the proportion of cases occurring in persons under thirty years of age is exceedingly small. Several instances of the affection at an earlier age may, however, be found in medical literature, and there is one record of undoubted epithelial cancer of the larynx in a boy three years of age (Virchow's 'Archiv,' Bd. xliii, S. 129, 1868).

The sudden occurrence of the symptoms in the second case may probably be explained by assuming that the growth had been very slowly forming during several months, but had not produced any effect on the breathing, or such an effect on the voice as would be appreciated by somewhat careless people, until a sudden attack of inflammation in connection with the tumour rendered the cord immovable, perhaps from implication of the crico-arytenoid articulation.

2. The value of the microscopical examination of fragments of the growth in both cases. In the first case the structure of the fragment was typical of squamous-celled carcinoma, but the general circumstances of the case led me to believe that I then saw under the microscope what I had never previously seen, the typical structure of epithelial cancer in an innocent growth, and I put the specimen away for future reference with a somewhat heavy heart, foreseeing that such a combination might render the diagnosis in some cases far more difficult and uncertain than I had previously suspected. So careful was I not to be misled by the microscopical characters of the disease that I allowed several months to pass, as I now think unwisely, in observation of the course of the case, and only performed thyrotomy when other general symptoms of malignant disease presented.

3. Both cases must be acknowledged to have been peculiarly suitable for this operation; the first case would have been even more so had the operation not been so long delayed. The disease was in both not merely intrinsic, but of very limited extent.

4. The exposure of the interior of the larynx was exceedingly good in both patients. Every part of the growth could be thoroughly seen and reached. Undoubtedly, the division of the cricoid cartilage in the woman allowed the two halves of the larynx to be more widely separated, but the exposure

in the man was as good as could have been desired. In persons of greater age, in whom the cartilages are ossified, free separation of the alæ would often be more difficult, but I do not think that need be a serious hindrance to thorough examination and removal of the disease.

5. The excellent and uninterrupted recovery of both patients, although one of them was a delicate woman. This is no doubt in great part attributable to the small extent of the disease and the peculiar suitability which each case presented for this operation. And it is of the utmost importance to bear this in mind in every instance in which a similar operation is proposed, and in the study of statistics of cases of thyrotomy for malignant disease. The majority of the cases which have been set in tables for this purpose were, on the very face of the evidence, wholly unfit cases for such an operation. I regard thyrotomy for exploration and for the removal of such growths as those which were found in the preceding cases as a comparatively small operation, certainly not to be compared in importance or danger with the partial or complete removal of the larynx. Two years ago I opened the larynx in the same manner in a man, seventy years of age, for malignant disease, but finding that there was much more extensive disease than it was expedient to attempt to remove, I closed the wound, after which the patient made a good recovery and left the hospital.

I think it will be admitted that even the issue of these two cases, thus far, has justified me in leaving the framework of the larynx, and dealing very freely and even roughly with the disease and the surrounding soft structures.

XIX.—*One case of Auto-inoculation in Laryngeal Carcinoma, and two cases illustrating the dangers of intra-laryngeal interference in Cancer of the Larynx.*

By David Newman, M.D. Introduced by Dr. Semon. *Read January* 11, 1889.

I PURPOSE bringing before the notice of the members of this Society two points of importance in connection with carcinomatous disease of the larynx. One of these is of pathological interest, in so far that it illustrates the possibility of auto-inoculation; the other is of clinical importance, and shows how far partial removal of a cancerous growth may lead to rapid extension of the disease to parts beyond the larynx.

Case 1.—The patient, J. K., æt. 49, came to the Out-door Department of the Royal Infirmary, Glasgow, in the month of April, 1887. At that time he suffered from hoarseness and difficulty in swallowing, as a consequence of an attack of acute laryngitis, which, under treatment, soon subsided, when he permitted a more careful and satisfactory examination to be made. Besides the laryngeal trouble the patient had a severe cardiac affection involving dilatation of the left ventricle, with a ventricular systolic murmur, and also symptoms of chronic bronchitis and pulmonary emphysema.

Inspection of the larynx revealed the presence of a small elevated ulcer on the left false cord, about midway between its anterior and posterior attachments. The margins of the growth were irregular, and slightly overlapped the surrounding mucous membrane. The surface was rough and very vascular, and covered an area of no more than a quarter of an inch square. With the exception of a slight general hyperæmia, the appearance of the interior of the larynx was otherwise normal. By the beginning of May all signs of inflammation had disappeared, so that beyond the presence of the little growth no disease could be discovered. Between May and December, 1887, the patient was examined at irregular intervals, and during that time the following changes were observed. Until the end of June the condition of the larynx remained practically the same as at the beginning of May,

but towards the last week of June a localised hyperæmia of the mucous membrane covering the right false cord was noticed. This change was limited to a point on which the free surface of the tumour impinged upon the right side of the larynx.

Notwithstanding careful treatment this condition of the mucous membrane persisted, and by December, 1887, a second ulcer had developed on the right side, and at that time it was larger in size than the primary growth. These two deep irregular ulcers were seen occupying the false cords, but both the anterior and the posterior portions of the larynx were free from disease, so that there was no continuity between the growths. At this time, the patient had become greatly emaciated, and suffered from a frequent irritating dry cough, occasionally accompanied by slight hæmoptysis. Hæmorrhage, however, never occurs independently of severe coughing, and even then it is seldom sufficient to more than stain the expectoration. Phonation and respiration have seldom been interfered with during the course of the disease, and then only when an acute inflammation has been excited, on the subsidence of which the voice was speedily and almost completely restored, and the dyspnœa disappeared. At times, especially at night, pain over the larynx, extending upwards to both ears, was complained of, and the patient was always conscious of the presence of a foreign body in the larynx, which he involuntarily tried to rid himself of by coughing.

In February, 1888, the patient was re-admitted to the Glasgow Royal Infirmary, under the care of my colleague, Dr. James Wallace Anderson, and by this time the cardiac and pulmonary symptoms had become greatly aggravated, while emaciation was extreme. The growths were practically the same size as in December, but the local inflammation was considerably increased, and several small erosions were observed at the base of the epiglottis. These erosions were shallow, some round, others of a very irregular form, and seemed to be quite independent of the ulcerating growths. They presented the appearance of the ulcers sometimes seen in tubercular disease, but a careful examination of the sputum removed from their surface failed to show the presence of tubercular bacilli. The patient gradually became weaker, and died at the end of April.

Post-mortem examination. Thoracic organs.—The lungs were slightly adherent posteriorly by old fibrous bands, the

anterior margins were emphysematous, while the right apex was unduly dense from an increase in fibrous tissue. On section the smaller bronchioles were found to be filled with very viscid, muco-purulent material, while the larger air-tubes presented the characteristic appearances of chronic bronchial catarrh. The posterior third of both lungs was in a state of hypostatic hyperæmia. The heart was soft and pulpy, subpericardial fat increased in amount, and the myo-cardium was the seat of marked fatty metamorphosis. The left ventricle was greatly dilated, and the mitral valve admitted five fingers; the aorta was the seat of moderate atheromatous and calcareous deposit. Beyond general passive hyperæmia of the abdominal organs, nothing worthy of note was discovered in the abdomen.

Larynx.—Two ulcerating tumours occupied the position of the false cords, and extended forwards towards the commissure so as almost to meet in the middle line in front. The growths were soft, with deeply injected floors, and thickened edges. The ulcer on the right side was larger and more irregular than that on the left. The mucous membrane was thickened, œdematous and hyperæmic, and, extending up from the base of the epiglottis, there was a very irregular but superficial erosion, and several small round erosions on the trachea. These eroded parts presented a striking difference from the ulcerating neoplasm; their edges were sharp and marked by a thin bright red line, while their floors were pale and comparatively smooth. External to the larynx there was no cancerous disease. After a careful search several lymphatic glands were found in the neighbourhood of the larynx, some of which were slightly enlarged, but none were found to be cancerous.

Microscopic examination of portions of the tumours showed them to be epitheliomata.

Remarks.—This case is of interest in two respects, first, as an example of auto-inoculation, and second, in its being one where death occurred previous to the disease becoming extra-laryngeal. Here the disease clearly spread from the primary growth to the opposite side of the larynx by direct contagion rather than, as is usually the case, by continuity of tissue. Such cases are of special interest in throwing light upon a mode by which cancerous disease may extend. This point was noticed by my colleague, Dr. William Macewen, and myself at a discussion on cancer at the Glasgow Pathological and Clinical Society.* He cited several cases in support of the

* *Glasgow Medical Journal*, vol. xxv, pp. 280 and 436.

opinion that frequent continuous contact of a non-affected surface with a cancerous one may lead to inoculation of the former; and I referred to two cases which had come under my own notice, one an epithelioma of the larynx, the other a case of cancer of the bladder. In the latter, the primary growth was situated in the fundus of the bladder, and on the opposite side there was another growth presenting the same characteristics. There were two little islands of cancer, but the rest of the bladder was free from tumour.

It is undoubted that the propagation of cancerous disease within the body closely resembles what is found in infective diseases such as tuberculosis. Every surgeon must have seen instances where pendulous cancerous growths such as those of the penis, the mamma, or the vulva have, after ulceration of the primary growth, communicated the disease to the skin at a distant part, the intervening tissue being healthy.

The two following cases illustrate the danger of rapid dissemination of cancer following partial removal of the tumour.

Case 2.—Without entering into detail it may be stated briefly that when first seen the malignant growth was strictly limited to the cavity of the larynx. I advised the patient, D. K. (private patient), who was sixty years of age, and came under my care three years ago, to have the tumour removed by partial laryngectomy; but before resorting to the operation I was naturally desirous to confirm my opinion respecting the nature of the growth by an examination of microscopic sections, telling the patient at the same time that if a radical operation was to be done, he must submit to it immediately after the sections were examined. This he promised to do. The growth, which was situated on the left false cord, and about the size of a horse-bean, seemed to be an epithelioma. The patient was duly informed of this fact, and was urged to have the operation of partial laryngectomy performed at once. But instead of agreeing to this, he insisted upon waiting for at least a month, stating that he had affairs of importance to attend to. Ten days after the intra-laryngeal operation a swelling about the size and form of half a horse-bean was discovered over the left superior corner of the thyroid cartilage. This ultimately proved to be a carcinomatous lymphatic gland.

Case 3.—A female, æt. 50, suffering from a tumour on the posterior third of the right vocal cord about the size of an orange seed. To the naked eye the tumour presented the

appearance of an inflamed papilloma, the mucous membrane was deeply injected, and the history of the case, a very chronic one, favoured the diagnosis of papilloma rather than of epithelioma. The patient was a nervous, excitable woman, and was extremely anxious about her condition. She had little or no discomfort or pain, save that arising from the sense of a foreign body in the throat. There was no lymphatic involvement, nor pain on manipulation. From the uncertainty of the diagnosis, I was then led to remove a small fragment of the growth, which presented the microscopic appearances of a papilloma without the least suspicion of the structure of an epithelioma. Shortly after this I removed a larger portion under the belief that the disease was benign, and that it might be cured by an intra-laryngeal operation. Following the second operation a diffuse swelling appeared in the neck, not limited so as to suggest any infection of lymphatic glands. Seventeen days after the intra-laryngeal operation this diffuse swelling subsided and revealed two enlarged lymphatic glands, one on either side of the thyroid cartilage. At first, these were supposed to be due to inflammatory changes, but the subsequent course of the case proved them to be carcinomatous in their nature; and the growth within the larynx, which on examination of the first specimen was believed to be a papilloma, ultimately, on examination of subsequent specimens, proved to be an epithelioma, and the patient died from the disease.

I think it may now be assumed that no surgeon will venture to perform a radical operation except in cases where the disease is limited to the cavity of the larynx, so that the only question now to be discussed is that of early diagnosis. For the purpose of arriving at an early and reliable diagnosis I have, along with others, advocated the removal by forceps of a portion of the neoplasm for the purpose of a microscopic examination. But to what I have formerly said and written on this subject I must make certain reservations.

No one can deny the importance of an early diagnosis, hence it does not devolve upon me to urge the necessity for it. But while this is so, I feel it to be a matter of very grave importance to recognise the dangers, which I have found by very unpleasant experience, may result from partial removal of carcinomatous growths. All who have had any experience of laryngeal cancer must have become assured of the fact that the tumour when intrinsic in its origin, and not interfered with by instrumentation, may remain limited to the cavity of

the larynx for a considerable time before secondary manifestations show themselves. Yet, this is no reason for delay; on the contrary, if laryngectomies are justifiable, it is only on the belief that cancer is primarily a local disease, which may be totally eradicated if the operation is performed at a sufficiently early date. But while on the one hand intralaryngeal excision for microscopic purposes clears up the diagnosis in laryngeal carcinoma, it also exposes the patient to very serious dangers by increasing the rapidity of secondary new formations. The incision of a cancerous growth, or its partial removal, has justly been regarded as a most dangerous procedure, probably because the absorption of the infected material, whatever its nature may be, takes place rapidly from a wounded surface. For instance, judging from my experience of other similar cases, I should say that neither in Case 2 nor 3 would the lymphatic glands have become involved for months, had I not removed portions of the growth with forceps. In both instances, the tumour was limited in size, and in both, within a very short time after the intralaryngeal operation, the lymphatic glands became involved. In diagnosing cancer within the larynx the surgeon practically can bring only one sense, that of sight, to bear on the diagnosis, and for this reason he has been driven to employ a method of investigation which he would not consider justifiable when the cancerous growth has originated in external parts. It is only after a large experience that one is in a position to diagnose with certainty cases not characteristic, and I feel assured that if we were as careful to record our unsuccessful diagnoses as we are to bring forward accurate ones, it would be found that intra-laryngeal interference with malignant growths has shortened the lives of many unfortunate sufferers. While conscious of the value of removing portions of a laryngeal neoplasm for diagnostic purposes, I desire to express my strong conviction that it should not be resorted to in cases suspected to be cancer unless the patient is willing to have a radical operation performed immediately after the diagnosis is completed.

XX—*A case of Laryngeal Cancer, in which hæmorrhages, perichondritis, and exfoliation of the greater part of the laryngeal cartilages occurred. Subsequently pleuritis, gangrenous pneumonia, death. Autopsy.* By Felix Semon, M.D. *Read January* 11, 1889.

MR. PHILIP P., æt. 52, an official of the Cape Government, consulted me on January 12, 1887. The patient, who wore a tracheotomy tube and whose voice was reduced to an inaudible whisper, brought with him a long written history of his case, of which the following are the salient points.

Having always enjoyed good health, and coming from a long-living family without any hereditary taint, he had been taken ill with a severe cold in April, 1886. After this the voice remained husky and weak for a short time. In June of the same year he had another severe cold with impairment of voice. This cold lasted for a long time, and the voice got gradually weaker and weaker. By degrees a little soreness was felt, and the general health began to suffer. Towards the end of October the disease was, after laryngoscopic examination, pronounced to be "consumption of the throat," and in April, 1887, the patient was, after failure of all medicinal treatment, sent to a health resort 360 miles from Cape Town. No improvement, however, took place, and in June the breathing became so noisy that it could be heard outside in the road.

The general health at the same time failed more and more. In the beginning of August the patient, who had returned to Cape Town, began to suffer from severe choking sensations, and conceived the idea that he had a growth in the throat. The attacks of suffocation grew worse and worse, and on September 16 he underwent tracheotomy at the New Somerset Hospital at Cape Town with instant relief. The practitioner who performed the operation stated at that time, that the vocal cords could not be seen, and that he thought the patient had a growth in the throat which required removal. He therefore suggested that Mr. P. should go to England, and put himself in the hands of a specialist. Accordingly,

the patient came to London, and immediately after his arrival on October 24, 1887, placed himself under the care of Sir Morell Mackenzie, who after examination pronounced that Mr. P. was suffering from perichondritis of the larynx. Having been seen by Sir Morell a few times, Mr. P. was admitted as an in-patient into the Throat Hospital, Golden Square, under the care of Dr. Norris Wolfenden. Towards the end of 1887 an external swelling made its appearance to the right, and just below the tracheotomy wound, and about the same time moderate hæmorrhages occurred once or twice daily from the cannula. They caused some cough, but each time ceased spontaneously and did not seriously inconvenience the patient. Both the external swelling and the hæmorrhages were in the patient's opinion due to ill-fitting tracheotomy tubes. Dr. Wolfenden, according to his own statements,* considered the case as an instance of perichondritis arising out of chronic laryngitis, and looked upon the external swelling as a large abscess due to extensive affection of the cricoid cartilage. He accordingly incised it, but only a large quantity of sero-sanguinolent fluid, no pus, escaped, and the incision wound did not heal. The patient having left the hospital continued to go there as an out-patient until the first days of 1888, when he ceased to attend and consulted me.

He did not at that time look ill, though his countenance bore a very anxious expression. On inquiry it was elicited that his general health, which had considerably improved after the performance of tracheotomy, had not recently suffered much, that he had not again lost flesh, that he slept well, and that there were no night sweats. He was, however, considerably troubled by cough, suffered from the frequent hæmorrhages above referred to, and had some very slight dysphagia, though he could still take solid nourishment. Occasionally there was also some soreness in the region of the tracheotomy wound. Examination of the larynx was very difficult. The epiglottis was normal but was hardly raised in phonation, as is so often seen after tracheotomy has been performed. The ventricular bands were immovable and so much swollen that they touched each other with their free borders, which lay quite in the middle line of the larynx, and altogether prevented inspection of the vocal cords and of the lower parts of the larynx. The mucous membrane covering the arytænoid cartilages, was enormously swollen and somewhat œdematous, the cartilages themselves

* *British Medical Journal*, vol. i, 1888, p. 792.

lay close to one another, and were perfectly immovable. All the visible parts were very considerably congested, but no trace of ulceration or new growth could be seen.

On very forced phonation, whilst the tube was closed with the finger, a minute gap became visible between the anterior ends of the ventricular bands, and some sound was heard; otherwise, even when the tube was closed, the voice was reduced to an absolutely toneless whisper. The patient's lips were seen moving whilst he attempted to speak, but only occasionally a hissing sound, produced in the oral cavity, was heard.

The larynx was nearly as much generally thickened externally as internally. But it was not tender on pressure, and no swollen lymphatic glands could be felt in the neck. Just below and a little to the right of the cannula there was a soft, reddish, fungoid swelling of the size of a hazel nut. Its surface was in parts ulcerated, and several fistulous tracts, through which a probe could be introduced until it encountered exceedingly hard, apparently ossified but not rough cartilage, led into its interior.

All other organs were perfectly healthy.

I told the patient that I certainly agreed with the diagnosis of perichondritis, but could not yet say definitely, what this perichondritis was due to, and that the progress of the case would have to be watched, and a fragment of the external swelling removed and microscopically examined, in order to arrive at a definite diagnosis. I recommended that he should go into St. Thomas's Hospital, and *ad interim* gave him—in spite of the absence of all signs of syphilis—iodide of potassium in ten-grain doses.

About one week later I saw him again. The external swelling had increased and was more ulcerated, the cough had become more troublesome, and the hæmorrhages especially had been much more copious. He now wished to go into St. Thomas's Hospital, and, thanks to the kindness of Sir William Mac Cormac, who henceforth saw the patient conjointly with me, he was admitted into Leopold Ward on January 15. The silver tracheotomy tube worn by the patient was found to be too much curved forward, and its lower edge to be very sharp, whilst its shield constantly pressed upon the large, raised, ulcerating sore, which now occupied the position of the former swelling. It was replaced by a soft rectangular india-rubber tube. Shortly after the change the hæmorrhage became considerably diminished for

a time, but, as will be seen, hardly ever entirely ceased. A piece of the external sore was removed by Sir William Mac Cormac for microscopic examination, and the latter, made by Mr. Shattock, established the definite diagnosis of carcinoma. The details are given here in Mr. Shattock's own words:

"The section includes the skin up to the edge of the incision. There is some exaggeration in depth of the interpapillary processes of the epidermis, associated with the histological signs of inflammation in the corium, *i.e.* there are considerable groups of leucocytes in the course of the vessels, and about the sweat-glands. The morbid growth has the common structure of carcinoma. The cell-groups approach quite closely to the interpapillary processes of the epidermis, but there is no continuity between them in the sections, and the epidermis ends abruptly at the margin of the incision.

"A comparison between the epithelium of the tumour and the overlying epidermis shows no squamous cells in the former resembling those in the latter, and none of the cells present the ridged borders so well marked in those of the epidermis.

"The cell-groups show no indication of nests, no lumen, and no elements of cylindrical form.

"The clinical facts of the case show clearly that the disease commenced in connection with the larynx, and not with the integument. The corium has been secondarily invaded by continuous extension of the growth as happens in an untreated case of carcinoma of the breast; the contiguity of the cutaneous epithelium with that of the tumour shows nothing in the absence of continuity.

"It would not be easy, however, to say whether the new growth had arisen in connection with the investing epithelium of some part of the laryngeal mucous membrane, or in connection with the gland structures. For in cases even in which laryngeal carcinoma arises in connection with squamous-celled areas of the investing epithelium, the tumour may present no cell-nests, and its cells, in the deeper part, no clear indication of the squamous character.

"In columnar-celled carcinoma of the alimentary canal the same class of fact is well known; in the deeper parts of the tumour, the columnar type of cell may be so masked as to be unrecognisable."

In view of these facts and of the extent of the disease no idea of radical treatment could be entertained; the iodide

of potassium was discontinued and replaced by various tonics.

January 31.—The external tumour increases rapidly and now extends to the left side of the neck. A probe introduced into it penetrates through the anterior wall of the trachea and becomes visible in the lower part of the tracheotomy wound. If the probe be introduced into the wound and directed upwards it encounters on the right side posteriorly the lower border of the plate of the cricoid cartilage. If directed still more upwards a hard mass is encountered, filling up almost the whole subglottic cavity.

February 1.—Hæmorrhages within the last few days but slight. General health satisfactory. No pain, no dysphagia.

February 7.—Patient feels very well, only hæmorrhages are troublesome, less so in consequence of their quantity than by clogging of the tube. The external tumour is increasing.

February 24.—Patient has had a slight attack of tonsillitis for the last two days with a temperature of 102°. Is better now. The external tumour has much decreased in size, is less prominent and looks better. The glands all along the anterior borders of both sterno-mastoids are much enlarged.

February 28.—Tonsillitis has passed off. The glands along the sterno-mastoids have also almost disappeared. Patient had a slight attack of hæmorrhage yesterday morning. The tumour outside the trachea is rapidly diminishing in size.

March 5.—The external growth is extending rapidly round the opening in the trachea, the chin being involved.

March 11.—This morning there was bleeding from the tracheotomy wound, about 4 oz. of blood being lost.

March 20.—Patient can only obtain sleep by the use of a draught. The external tumour almost unchanged, but extension of the infiltration of the skin around it. Laryngoscopic examination reveals no change, so far as can be seen, but the examination becomes more and more difficult.

April 1.—Patient has observed during the last fortnight that when drinking milk occasionally some of the fluid escapes by the sides of the tracheotomy tube; yesterday the quantity was considerable, and he says he is now reduced to sipping slowly. The ulcerating swelling round the tracheotomy wound is breaking down, whilst the infiltration of the skin in its neighbourhood is still increasing. Outlines of larynx can no longer be felt distinctly.

April 20.—Complains of occipital headaches of apparently neuralgic character, from which he never suffered before.

May 1.—For the last four or five days there has been some difficulty in introducing the tube, owing to encroachments on its channel. This morning its introduction was followed by a choking fit, threatening suffocation. After removal of the tube a severe fit of coughing followed, and a mixture of blood-clot and slough in a lump, about half the size of a small walnut, was expelled. A good deal of blood came through the orifice during the coughing fit. The coughing subsequently continued, and a considerable quantity of blood-stained stringy mucus was expelled, but the principal obstruction seemed to have been removed. The introduction of the tube was now easily effected.

May 14.—The introduction of the tube is again becoming difficult. To-day there was a very free muco-purulent discharge both before and after changing it. The eversion of the lips of the wound has increased, and their former superficial excavation has been largely increased by sloughing.

May 17.—Patient has within the last two or three days coughed up several small sloughs. To-day he coughed up a corroded plate of cartilage half an inch by a quarter of an inch.

May 27.—Piece of cartilage projecting from the right side of the ulcerated cavity which occupies the site of the larynx. Not loose. About this time the patient's appearance became very cachectic, and laryngoscopic examination, owing to his weakness, quite impossible. The only thing which could be seen was that the epiglottis was still intact. There was no dysphagia at that time.

May 29.—Difficulty experienced in introducing the tube. On withdrawal a piece of necrosed (calcified) cartilage was seen blocking almost entirely the orifice of the trachea, quite loose. On removal, found to be one inch in length, one half inch across at one end and about one third inch at the other, end, and one quarter inch thick. It evidently represented a part of the plate of the cricoid cartilage. Small fragments of similar nature have been detected lately two or three times amongst the matters expectorated.

June 8.—Front of cartilaginous tracheal ring projects at entrance of trachea. The prominence of the lips of the external wound has markedly decreased. Temperature subnormal. Patient rapidly emaciating and more cachectic looking, but whilst he feels very weak and sinking one day he is surprisingly stronger the next. Sleep can only be procured by morphia, which sometimes makes him sick. Slight cough.

June 11.—Discharge increased.

June 13.—Crumbs have from time to time given trouble to the patient by their entrance into the trachea, and occasionally fluids have done the same during the last few weeks. This morning's food got into the trachea to a considerable extent, and was with difficulty expelled through the tube by coughing. Patient is rapidly getting weaker.

June 14.—Patient remains in bed. Discharge profuse. Breathing 36 to the minute, shallow and laboured. Temp. 99°. Complains of pain in lower part of right side of chest. Dulness over right base posteriorly, with very harsh breathing. Poultices applied.

June 15.—Somewhat stronger to-day; respiration less hurried and laboured. Pulse 88, but temp. 101° in the morning, rising to 101·8° in the afternoon. Coughed up piece of cartilage.

June 19.—Patient weaker again and very apathetic. Everything, even saliva, escapes through the tracheal opening. He is now nourished exclusively through the tube. Morphia injections twice in the twenty-four hours. The temperature is down again, and the pain in the chest has disappeared. Another piece of cartilage, about half an inch in length, removed to-day. Patient coughed up a very large slough which nearly choked him. This was followed by some hæmorrhage. The discharge is extremely profuse.

June 21.—Felt what seemed to be an obstruction in passing the œsophageal tube; it gave way suddenly under moderate pressure. Patient seemed to feel irritation in the air passages from the introduction of the œsophageal tube. In some very clear viscid mucus coughed up after he had been fed were a few brownish specks, which looked very like the grains of beef which form part of the fluid food given him. Some sloughs were expelled yesterday, amongst them a rather large piece of partly gangrenous muscle and a fragment of cartilage. Temp. yesterday 108·4°, to-day again normal. Patient very apathetic; sleeps almost always.

June 30.—For the last two mornings patient has complained of a pain in the right side of the chest low down, which is sharp and cramp-like and occurs when he coughs. This evening the pain was present, and there was very severe coughing. Dulness continues over right base. No breath sounds heard, but no friction.

July 3.—Pain in chest is less and patient is somewhat stronger than he was a few days ago. Breath sometimes very fœtid. Temperature normal or subnormal. No rigors. Pulse

80 on the average, pretty strong. The cavity round the tracheal tube is constantly enlarging, *i. e.* granulations quickly form, break down, are formed again, break down anew, &c. Occasionally slight hæmorrhages. Patient rapidly emaciating. Much cough and profuse sero-purulent discharge.

July 13.—Only two small pieces of cartilage have, so far, been coughed up this month. The patient, who a week ago talked of getting up, has ceased to do so and looks more worn. This morning on entering the small ward an almost insupportable fœtor was perceived, differing widely from that which had hung about him previously. Occasionally slight pains in right side, where dulness is now complete, and constantly extending. No breath sounds heard almost up to the angle of the scapula.

July 20.—The discharge has for a week or so been more purulent and contained less mucus, besides being intensely fœtid. To-day patient produced a lump of cartilage ($\frac{1}{2}$ inch by $\frac{1}{3}$ and $\frac{1}{6}$ thick) which had blocked the tube. He saved himself from choking by withdrawing the tube.

July 26.—Patient has coughed up to-day a large piece of cartilage, which appears to be the posterior border of the left ala of the thyroid cartilage from the superior to the inferior cornu. Complains especially of cough and profuse expectoration. During the last few days uncontrollable diarrhœa.

July 27.—Sinking fast. Great pallor, some exophthalmos. Temperature subnormal, pulse 120, respiration laboured and shallow, 54 to the minute. Gradual loss of consciousness. Death on the evening of July 27.

A partial post-mortem examination was made on the 28th, twenty hours after death, by Mr. Shattock, in the presence of Mr. R. W. Parker, Dr. Hawkins, Dr. Schnitzler (Vienna), Dr. Joachim (New Orleans), and myself.

Its result is as follows:

There was evident enlargement of a lymphatic gland lying on the right carotid. [The microscopic examination of this gland showed carcinomatous affection.]

The right pleura contained more than a pint of pus. The pleura itself was much thickened.

The left lung crepitant, contained pus in tubes, but was otherwise normal. The right lung was consolidated, grey, and contained numerous gangrenous cavities partly filled with pus, the largest of which, about the size of a Tangerine, was situated in the upper lobe. The lung was firmly adherent at its base to the diaphragm, its substance being torn in parts,

when it was removed, so that it was not certain whether one of the cavities had given way, but probably it had. On microscopic examination the typical changes of acute pneumonia were found, the vesicles being quite filled with inflammatory exudation.

The heart was healthy, and the other organs which were examined (liver, spleen, kidneys) exhibited nothing abnormal.

Of the larynx and adjacents parts, which were removed *en masse*, Mr. Shattock gives the following report:

"The specimen (which is now in the museum of St. Thomas's Hospital) comprises the tongue with the pharynx and upper part of the œsophagus, together with the corresponding parts of the respiratory passages and the integuments below the hyoid bone for a distance of 8 cm.

"*Description of the parts as viewed from the front.*

"There is in the mid-line an oval aperture 5 by 3 cm., the highest limit of which is a little below the level of the hyoid bone. The edges of the aperture in the skin are sharply defined; wavy or irregular in the upper half, curvilinear in the lower. Through this opening is exposed a great ulcerating chasm—the laryngeal cavity, enlarged and unrecognisable in form by reason of the almost complete loss of the laryngeal cartilages.

"At the lower and anterior part of the space is visible the upper border of the trachea.

"Between the skin and the latter, however, there intervenes from before backwards a distance of about 2 cm., occupied by morbid growth, sloughing and ulcerating where exposed, like the deeper parts already noticed.

"*Description of the parts from behind, the pharynx and œsophagus being laid open in the mesial line, and the air passages from the right side.*

"There is a widespread destruction involving the lower two thirds of the right half of the epiglottis, the whole of the right aryepiglottic fold, and the adjacent part of the wall of the pharynx, as high nearly as the apex of the epiglottis. The right half of the body of the hyoid bone projects, necrosed, from the ulcerating surface.

"Of the laryngeal cartilages and the soft parts intrinsic to the larynx, nothing whatever remains on the right side; and

merely the posterior two thirds of the cricoid and the arytenoid cartilage on the left. These are in places bare and necrosed, and the remnants of mucous membrane covering them are greatly thickened and œdematous.

"The whole surface of the extensive cavity, which measures 6·5 cm. in length, resulting from the loss of substance is highly irregular, shreddy, furrowed, and pitted by the progressive ulceration and necrosis of the morbid tissue. There is, however, no fistulous communication between œsophagus and larynx and trachea. Various portions (seven in number) of the necrosed cartilages, expectorated at different times, are preserved with the specimen. The largest of these comprises the posterior border with the superior and inferior cornua of the left ala of the thyroid. The several pieces are completely ossified.

"*Histology.*—For microscopic examination was selected a small portion of the infiltrated margin of the ulcer close to the pharynx. Sections cut at right angles to the surface and stained with hæmatoxylin show the structure typical of carcinoma—branching cell-groups of epithelial type in a connective-tissue stroma. The nuclei of the cells are regularly oval or spheroidal, the nucleo-plasmic network being well marked. The cell-protoplasm is lightly stained, and, relatively to the nuclei, not large in amount. The outline of cell-protoplasm, here and there discernible, shows the cells to be polyhedral and mutually adapted, much as those in a glandular-celled carcinoma of the breast.

"The relative proportion of cell-protoplasm to the nucleus is not that of a typical squamous-celled carcinoma, and there is no indication of columnar form in the epithelial elements. There are no nests in any of the cell groups, and nowhere any lumen."

Remarks.—Although this case does not present a single feature which has not previously been observed and described as occurring in laryngeal cancer, I have ventured to bring it before the Society because it admirably illustrates the clinical points mentioned in the title, and which have been more or less contested during the last two years.

First, with regard to the hæmorrhages.* The patient attributed them to an ill-fitting cannula, and the fact that, very shortly after a soft india-rubber tube had been substituted for the silver tube, they lessened for a time considerably in fre-

* With regard to this and the following points see also *Internat. Centralblatt für Laryngologie, &c., August,* 1888.

quency and quantity, seemed to lend colour to his belief. The subsequent history, however, plainly showed this to be fallacious, for the hæmorrhages recurred again and again, and the examination of the specimen absolutely negatives the idea of their being due to irritation caused by the tube. For the trachea below the new growth is seen to be absolutely healthy, whilst everybody who has seen the ravages caused by a really ill-fitting tube after only a few days' use, will admit that, if the hæmorrhages had in reality been due to tracheal lesions thus caused, traces of such lesions ought to be visible in the shape of ulcers, granulations, or scars.

There is not, however, the slightest need to attribute the hæmorrhage to traumatic influences, for its occurrence in laryngeal cancer is one of the classical symptoms of this disease. As it is one of the characteristics of malignant new growth in any part of the body that, in its relentless onward march, it respects no tissue, but destroys skin, muscle, mucous membrane, bones, nerves, with equal impartiality, it cannot be wondered that the vessels of the affected part do not escape the general fate. Laryngeal cancer makes no exception to this general rule; indeed, serious hæmorrhages are "almost pathognomonic of cancer."* In the present case their occurrence is amply explained by the extensive destruction of the larynx.

Secondly, with regard to the perichondritis and exfoliation of the laryngeal cartilages. Considering the fact just mentioned, viz. that no tissue is spared during the progress of cancer, it is by no means surprising that cancer of the larynx, starting from the soft parts, should penetrate into the deeper structures and affect the perichondrium and the cartilages themselves. This has been frequently observed and described.†

Now, in a number of these cases, in which the disease progresses, comparatively speaking slowly, the affected laryngeal cartilages and their coverings perish very gradually, and the clinical phenomena of perichondritis and necrosis of the cartilages are either entirely absent, or remain entirely subordinate to the symptoms of laryngeal cancer. In another series of cases, on the other hand, the perichondritic phenomena, sometimes accompanied by fever, œdema of the neighbouring soft parts, hæmorrhages, &c., may chiefly occupy the attention of the

* Morell Mackenzie, *Diseases of the Throat and Nose*, vol. i, p. 336.

† F. Semon, "Epithelioma of the Larynx," Pathological Society's *Transactions*, vol. xxxi.

observer, and the primary disease may be overshadowed or obscured. Thus it was in the present case, not the least remarkable feature of which was the fact that the diagnosis of cancer was only established after it had existed eighteen months. But this case is by no means the only one in which such a course of events has been observed. Not less than twenty-two years ago a case, illustrating all that has been stated here, was described by Türck,* and more recently another most interesting case has been recorded by Samuel West,† in which not even the autopsy, but only the microscopic examination of the parts after death, solved the question of the diagnosis between cancer and perichondritis.

There is not the least reason why, in cancerous as well as in other forms of perichondritis, fragments of necrotic cartilages should not be eliminated during life. The present case illustrates this fact in a very remarkable manner.

Thirdly, the almost complete absence of glandular affection observed in this case is by no means uncommon in laryngeal cancer. It deserves, however, attention in this connection, that *transitory* swellings of lymphatic glands from acute complications (such as the tonsillitis in this case) may occur, and it must be inversely concluded that glandular enlargement met with in a case of laryngeal cancer is not necessarily a sign of cancerous affection.

Fourthly, the clinical history of the cancerous vegetations round the tracheal orifice is very instructive. The appearances varied, indeed, almost from week to week in a surprising manner, and occasionally the edges of the opening appeared to be absolutely clean cut. The growth, in fact, used to break down almost as quickly as it grew, and the internal conditions apparently corresponded to those noted outside.

Finally, with regard to the mode of death in the present case, the patient succumbed to one of the commonest final complications of laryngeal cancer, viz. to gangrenous pneumonia. Whether this was due to inhalation into the lungs of the putrid material produced in such enormous quantities in the larynx, or to particles of food finding their way into the lungs, cannot with certainty be decided.

There was no such fistulous communication between the air and food passages, as had been sometimes suspected during life (especially after the event of June 21), but the post-mortem examination revealed the fact that the upper

* *Klinik der Kehlkopfkrankheiten*, p. 336.

† Pathological Society's *Transactions*, vol. xxxviii, p. 35.

aperture of the larynx had been much enlarged by ulcerative destruction, and it is certainly possible that particles of food may have found their way into the air passages, although, in view of the putrid process within the larynx, this theory is by no means necessary to explain the occurrence of the gangrenous pneumonia.

XXI.—*A case of successful Nerve-grafting.* By A. W. Mayo Robson. *Read January* 25, 1889.

THE following case seems to me to present so many points of interest, both clinical and physiological, that I thought it might be of sufficient interest to relate to the members of the Clinical Society, especially as I am able to show the patient, and to submit the tumour removed for inspection.

Minnie B., æt. 14, was admitted into the Leeds General Infirmary on September 1, 1888, on account of a tumour in front of the lower part of the right forearm, which had been steadily increasing for six years, and which had lately caused inconvenience on account of its size, as well as from its unsightliness. She had had no pain, and her general health was unimpaired. Before admission, the tumour (on the supposition of its being a ganglion) had been treated by blistering, painting with iodine, strapping, bandaging on a splint, and attempts at rupture; but despite all treatment it continued to grow, and lately with greater rapidity.

On admission, the patient, a healthy-looking girl, complained of the inconvenience caused by the tumour, which seemed to be about the size of a hen's egg, extending from the annular ligament in front of the right wrist-joint up the forearm for about three inches, and reaching laterally from one side of the forearm to the other. The skin was firmly stretched, but moved freely over the swelling; the superficial veins were enlarged. She complained of no pain, and there was no tenderness; the lymphatic glands were unaffected, sensation in the hand and fingers was unimpaired, and there was no limitation of movement in the fingers. The tumour appeared to be solid or semisolid.

On September 6, after the skin had been thoroughly asepticised by being covered with a carbolic dressing for twelve hours, a vertical incision of 3 inches was made over the tumour, which at once bulged through the wound and was easily separated from its cellular bed, leaving the mass attached above and below to a cord, which was intimately and inseparably blended with it. As removal of the tumour seemed to be otherwise impossible, these attachments were cut through and the mass was removed. After all bleeding had been arrested, the

wound was well washed out with a perchloride of mercury solution (1 in 2000), and catgut ligatures were applied, no drainage-tube being inserted.

A microscopic examination showed that the cord passing into the tumour was a nerve, and from its position and size it could be no other than the median. When I examined the patient the following morning, I found, as I expected, anæsthesia of the front of the thumb, index, middle, and half the ring fingers.

I therefore at once decided to fill the gap in the nerve by transplanting a portion of the sciatic nerve of a rabbit, and arranged, on the following day, to have an animal killed and dissected whilst I was dissecting out the severed ends of the divided median, so that the transfer might be made straight from one to the other. Finding, however, that my colleague, Mr. Ward, was going to amputate a thigh for disease near the knee in a young subject, and that the leg was perfectly healthy at its lower part, I asked his permission to utilise the posterior tibial nerve. Permission was freely granted, and forty-eight hours after the removal of the tumour, whilst my house surgeon, Mr. Moynihan, was assisting me in opening out the wound and finding the divided ends of the median nerve, Mr. W. Thompson dissected out the posterior tibial nerve from the limb just removed and brought it from one theatre to the other in a warm carbolic solution (1 in 40), when it was immediately divided to the required length (2½ inches) and placed in the gap between the ends of the median, where it lay loosely, without the slightest tension, only requiring a single fine catgut suture at each extremity to hold it closely in contact with both ends of the divided nerve. The wound was well washed out with perchloride lotion (1 in 2000), bleeding points were ligatured, a drainage-tube was inserted, and catgut ligatures were employed to keep the edges of the wound in position. The wound was dressed with salufer wool, and the limb placed on a back splint.

The patient had no pain, no elevation of temperature, and no discomfort of any kind. The drainage-tube was removed on the third day, and the wound healed by first intention without suppuration.

I saw the patient thirty-six hours after the nerve had been grafted, and removed sufficient of the antiseptic dressing to enable me to test the sensation in the tips of the fingers. I then found that the patient could distinctly and unquestionably tell when I touched with my pencil the thumb, index, middle, and

ring fingers, and could differentiate the one from the other with very few mistakes. Day by day, sensation became more delicate, until when shown to the members of the Leeds and West Riding Medico-Chirurgical Society, five weeks afterwards, the most gentle touch made with a pin or with a pencil could be perceived in any of the parts supplied by the median nerve; but the muscles had not so fully recovered, for although the abductor and flexor brevis pollicis had some power, there was manifest diminution in volume and some weakness. The muscles have since gained full power.

Whilst the case itself presents many points worth noticing —for instance, the size of the tumour, its microscopic appearance, its situation, and its slow and painless growth—yet the chief interest centres in the successful result of the operation undertaken with a view to the remedying of a condition which, if allowed to remain, would have proved very serious to the usefulness of the right hand.

It is well known that reunion and even regeneration of nerves with return of lost functions may take place, not only without suture of the divided ends of the nerve but also when a long piece of nerve has been excised and removed, as in a case of Dr. Brown-Séquard's, shown to the Biological Society of Paris in 1882, where nearly the whole extent of the sciatic and tibial nerve had been reproduced in a monkey after an excision of 4½ inches; but although the nerve had been regenerated the motor and sensory functions had not returned. In the case I have read I could hardly have expected the distal portion of the median to have recovered its functions after so much as 2½ inches had been removed; for in all cases that I have personally observed, wherever there has been complete loss of nerve-tissue, there has been no return of function in the part supplied by the damaged nerve.

If nerve-grafting can succeed in one case it ought not to fail in others if like conditions be observed; and should further experience prove that this case is not an isolated one, it will open a way to the cure of many hitherto hopeless cases; for instance, in injury of an extremity with considerable destruction of the chief nerve-trunks, it may be worth while saving the limb and trying to secure a return of function by nerve-grafting, either immediate or remote. Or, in the case of a tumour arising on a nerve-trunk, in which it is impossible to remove the tumour without removing the nerve, one may operate with the hope of afterwards being able to restore function by nerve-grafting. In other cases where nerves are

rendered useless by being hopelessly involved in cicatricial tissue, it may be possible to completely excise the cicatrix, including the nerve, and then to transplant new nerve into healthy tissues. In paralysis of a limb due to sloughing of a nerve it may be possible to restore function by nerve-grafting, and in many other ways one can see how such an operation might be of very great service.

Whilst the length of nerve grafted in this case (2½ inches) was considerable, further experience may show that even greater lengths will live; but if not, the graftings might be done piecemeal, each new piece being sutured to the end of the portion previously transplanted, thus gradually building up the new nerve until the extremities of the old one are made to join by the interposition of the grafted tissue.

The conditions observed in the operation were: First, the entire absence of tension, 2½ inches of nerve being employed to fill an interval of 2¼ inches. Secondly, great care was observed in dissecting out and in handling the nerve to be transplanted. Thirdly, the transplanted posterior tibial nerve was transferred immediately as a living tissue into its new bed. Fourthly, only one fine catgut suture was employed at each end to fix the nerve in its new position. And, fifthly, the most careful antiseptic precautions were adopted so as to secure primary union of the wound.

Although I have seen a rapid return of sensation even within twenty-four hours after immediate suture of a divided nerve, I must say that the return of sensation in the fingers in thirty-six hours rather surprised me, and I am at a loss to explain the *rationale* of the process, being only able to vouch for the clinical fact.

In 1864 an attempt was made to prove that divided nerves may heal by primary union and recover their functions after the cut ends are placed in front of each other and held there by suture, and I cannot see why this should not be the case; but the view now held, and apparently proved, seems to be that a primary union of the divided ends of a nerve is only an appearance of union, a cicatricial not a physiological one; that the distal end must pass through a process of degeneration; that new elements must be produced, and that the importance of suture does not consist in rendering healing easy by preventing degeneration, but in allowing regeneration to take place quickly.

The return of function in the muscles in this case has been much more gradual.

Why is this? Can it be that degeneration has descended into the muscles and that their regeneration occupies a longer period than regeneration of nerve? Or can it be that the efferent nerves degenerate before regeneration and that the afferent do not, or that the afferent regenerate more rapidly?

I cannot answer these questions, but possibly someone present may be able to throw light on what to me seems difficult to thoroughly comprehend.

Addendum (June, 1889).—The girl came to see me on June 22, when I found sensation in the parts supplied by the median nerve to be satisfactory. The electrician to the Infirmary tested the muscles of the thumb, and reported that they acted well to faradism as well as to galvanism, but to the latter more freely than to the former.

XXII.—*A case of removal from the knee-joint of a Dislocated Internal Semilunar Cartilage.* By Herbert Wm. Allingham. *Read January* 25, 1889.

THE following interesting case was recently sent me by Dr. Wharton Hood. I cannot do better than cite the history as given by the patient himself.

Mr. W., æt. 20, states that in October, 1887, he was playing Rugby football, and was running with the ball. Being collared, he came to the ground and found himself simply sitting with his legs crossed, in a not uncomfortable posture. Springing up, he was surprised to find that he had to limp, for his fall was by no means a violent one. His right knee slightly pained him on the inside, but he continued playing and the pain soon ceased. That evening he observed that the knee was swollen and puffy. Next day he played again with no evil effects at the time, though the side of the knee felt a little strange. He consulted a doctor, who painted the knee with iodine, and in a few days the effusion ceased.

He soon began to play again with his knee bandaged, but now he noticed that any exceptional exertion produced the sensation of his leg being broken at the knee, the upper part being pushed inwards and the calf outwards. Generally the pain was only momentary. Presently every slight stumble reproduced the above-described pain, followed by effusion in the joint. The doctor continued the painting with iodine, the cause of the pain being, in his opinion, a straining of the internal lateral ligaments.

Ever since that time his leg has been a source of constant trouble. The slamming of a door, springing over a low hedge, any little stumbling, a sudden turn, or jumping into bed, anything that occasioned any uncertain movement of the knee caused swelling of the joint and the old pain. Yet in the intervals between these *contretemps* he could freely walk or run. A game at fives, even though he wore a knee-cap, was more likely to prove disastrous than a lengthy cross-country run, and a slipping for a few inches more fatal than a jump for a good many feet.

In the summer of 1888 he hurt his knee while playing

cricket, and for the first time had to rest the leg on a chair, the effusion being worse than usual. In August, 1888, he was fielding and stooping to pick up a ball, when he felt a "crunch." From that time his trouble from the knee was constant, his finger sometimes detecting a loose body. Such is the patient's account of his case.

When I first saw him, on September 1, 1888, I found the right knee in the following condition: On the inner side of the knee in the interval between the femur and the tibia, rather more towards the back than the front of the joint, was a hard, fairly moveable body about 1½ inches in length. This appeared to be fixed at its lower and posterior part, but the anterior could be made to move slightly forwards and backwards. Upon the patient flexing the joint there seemed to be an abnormally large interval in the front part on the inner side of the patella, but no internal semilunar cartilage could be felt. There was then no effusion in the joint, and gentle movement did not excite pain. In my own mind I thought that the internal semilunar cartilage had been torn away from its anterior attachment, but I was not certain whether it might not be a case of pedunculated loose cartilage.

I explained to the patient the dangers of opening the knee-joint, but these he readily consented to incur, the knee in its present condition being practically useless to him, and a source of constant trouble.

On September 5, assisted by my friend Mr. Cotes (Dr. Wharton Hood, much to my regret, being unavoidably absent), I opened the knee-joint, practising strict cleanliness, but using no spray. An antero-posterior incision was made, 2 inches in length, its centre being over the cartilage and corresponding to the interval between the femur and tibia. Before opening the synovial membrane I carefully clipped all the bleeding parts. Upon the joint being opened and the edges of the synovial membrane clipped so as to prevent it slipping into the joint, a small amount of synovial fluid came forth. I then saw that it was the internal semilunar cartilage with which I had to deal. I caught hold of this and attempted to drag it out of the joint, for it had plainly been torn away from its anterior attachment and was resting upon the inner side of the internal condyle of the femur. I could not pull it out, for it was firmly fixed at its posterior parts. Accordingly I passed scissors into the joint and cut off the cartilage as near to its posterior attachment as possible. The joint was then thoroughly syringed out with carbolic acid (1 in 40)

until the lotion flowed out of the wound unstained with blood. I next passed six catgut sutures through the synovial membrane, tying them up tightly so as to approximate the cut synovial edges. After this silver sutures were used to unite the skin. The leg was now dressed with carbolized gauze and salicylic wool and antiseptics employed. No drainage-tube was used. The whole leg was placed upon a back splint, extending from the gluteal fold to the foot, and was carefully bandaged to the splint, a long outside splint being also used.

On visiting him four hours afterwards he had vomited, but there was no pain. Temp. 98°. Later in the evening still no pain, but temperature had risen to 99°.

September 6.—Fair night. Temperature, taken every four hours, had reached, at 4 p.m., 100·2°. There was no pain or tenderness in the knee, and no discharge through the dressing.

September 17.—Temp. 100°, pain in knee all night, and consequently, no sleep. The bowels had not acted and the tongue was dirty. I removed the dressings and found that the joint was distended with fluid and was tender, but there was no œdema. On the removal of the dressings a synovial fluid issued from the wound. I therefore took out one of the silver sutures so as to allow the discharge to pass away. Antiseptics were re-applied and an ice-bag placed over the dressings. A purgative was given. At 6 a.m. the temperature had fallen to 99·8°, the bowels having acted thrice, and there being no pain in the knee, ice still covering the dressings. From this time the temperature never rose higher, varying for some days between the normal and 99·6°.

September 8.—Fair night, no pain, a little tenderness on pressure, general condition much better, temp. 99°.

September 9.—Wound re-dressed and looking well, though still discharging synovia. Temperature normal, no pain, still a little tenderness to touch. Antiseptics re-applied and ice continued.

September 10.—Temperature up to 99·6° during night, but returned to normal in morning. Some weight and pain in knee of a heavy character. Bowels had acted. Slept fairly well.

September 11.—Wound redressed, all stitches removed, except one in the centre of the wound, which was not now discharging synovia, though the joint was still full of fluid, but not tense. There was a little tenderness to touch, but no œdema.

September 12.—Some pain in abdomen, knee fairly comfortable. From this date the patient went on very well, the distension gradually diminishing, and there being no pain or tenderness.

September 22.—Antiseptics were left off. The wound had all healed, except for a little spot at the posterior part, which had broken down superficially. It was then dressed with zinc ointment, the splints being still continued.

September 26.—Wound all healed, still a little effusion, but no pain about the knee. The leg was taken off the splints and the patient was told to use it a little, though remaining in bed. The joint was rather stiff and he was able to flex it only very slightly.

September 28.—Patient got up and was allowed to walk about the room. There was no pain in the knee and he could easily stand upon the foot, but the leg was still stiff and he could not flex it completely on the thigh, complaining of a "dragging" and a sense of tightness under the patella.

September 29.—After using the leg all that day, although there was no pain in walking, yet the joint became slightly swollen. I therefore ordered him to wear an elastic knee-cap.

October 3.—He went home, there being very little effusion. He could almost completely flex the leg, and walking or hopping caused no pain. Moreover, rotation inwards or outwards gave rise to no discomfort whatever.

October 10.—On this day I saw him again. He had been walking seven or eight miles a day, and had even been out shooting. There was no effusion, heat, or tenderness, and he could move the leg perfectly in every direction; the scar was quite sound. As he was going to Cambridge, he asked me whether he could "go in" for rowing and football, but I advised him to forego such exercise till after Christmas.

On examining the portion of internal semilunar cartilage that had been removed, I found that it measured 1½ inch in length, the anterior extremity being thickened and rather inflamed.

There are a few points in the operation that I think worthy of remark: the thorough cleansing out from the joint of every vestige of blood, the suturing carefully together of the cut synovial edges, and lastly, as a result of further experience, the use of a drainage-tube. I did not employ one in this case, and thereby, in my opinion, subjected the patient to considerable pain and discomfort. Had drainage been resorted to for the first forty-eight hours, so as to allow of the

escape of any excess of synovia, the patient would have been spared the pain occasioned by the distension.

December 19.—He was seen again and was quite well.

As far as I can ascertain, this is the sixth recorded case in which the internal semilunar cartilage has been removed from the knee-joint.

Addendum (June, 1889).—The patient remains quite well, and experiences no discomfort whatever.

XXIII.—*A case of complete Compound Dislocation of the Elbow-joint with rupture of the ulnar artery: recovery with a movable joint.* By Anthony Bowlby. *Read January* 25, 1889.

E. K., æt. 39, a barman, was admitted into the Metropolitan Hospital at 11 P.M. on September 9, with the history that whilst running after a man in the street he slipped and fell.

On admission the patient was seen by the house-surgeon, Dr. Thompson, and as it was evident that the injury was a serious one, temporary dressings were applied and kept on until I saw the man at 1.30 A.M.

When the patient had been placed under an anæsthetic I examined the arm and found the following conditions:—On the inner side of the left elbow there was a very large and ragged wound in the skin, and through this the whole of the lower articular surface of the humerus protruded, the condyles being completely exposed and the skin somewhat contracted around the shaft of the bone.

The flexor muscles were torn and ragged, and the ulnar artery had been completely lacerated, its torn ends being widely separated. The radius and ulna were displaced backwards and to the outer side; the capsule of the joint was most extensively torn, and on account of the laceration of the ligaments the bones could be freely moved in any direction. There was no fracture of any of the articular surfaces. The median nerve was freely exposed, but was uninjured, and the ulnar nerve also was, on examination, found to have escaped.

Both ends of the ulnar artery and several of the small vessels were tied, and the joint and the soft tissues were irrigated for several minutes with a lotion of carbolic acid. The displaced bones of the forearm were then replaced without difficulty, but it was at once evident that it was not possible to close the large rent in the capsule even had it been considered desirable to do so. I therefore decided not to make any attempt to close the wound in the skin, for the edges of the latter were much contused and blue in colour, and I felt sure that, considering the nature of the injury, there would certainly be a copious discharge of synovia, which ought evidently to be provided with a free exit.

I accordingly only sutured that part of the skin wound I had myself made in order to satisfy myself of the integrity of the ulnar nerve, and after placing the limb on an interrupted angular splint I dressed it with a layer of dry carbolic gauze and a large quantity of iodoform wool, after having freely dusted iodoform powder on to the raw surface. No drainage-tube was inserted.

The following morning there was some oozing through the dressings, and these, therefore, were changed without the wound being in any way washed or otherwise disturbed.

On September 11 there was much swelling, redness, and discolouration from bruising of the damaged elbow, but the temperature was only 99° and there was no severe pain. The dressings had been soaked with synovial fluid but there was no suppuration. The wound was therefore not washed out, though fresh dressings were applied.

The history of the patient from this time onward is easily told. His temperature never rose above 100° F. and he suffered no material pain. For a fortnight there was a copious discharge of synovia, necessitating frequent dressing, but at no time was there any pus from the joint, clear synovial fluid oozing out drop by drop when the dressings were removed. After the eighth day the discharge diminished, and after about the fifteenth day the articular cavity seemed to be shut off from the surface wound, which was now granulating and quickly closing.

On September 29 I moved the joint for the first time, and found that limited flexion and extension were smooth and painless. The whole wound finally cicatrised in the seventh week after the accident, and the patient at once began to exercise the limb with a dumb-bell in order to restore more free movement, for at this time extension could not be completed, and the forearm in full extension was flexed to about half a right angle.

Since the beginning of November the joint has been daily shampooed and rubbed with soap liniment, and at the present time is practically as good as before the accident. The limb is quite strong, and movements of flexion, extension, and rotation are free, smooth, and painless; but even when as much extended as possible there is yet remaining some very slight flexion of the forearm, which is now daily improving and promises to quickly disappear.

I have brought this case before the Society because complete compound dislocations of the elbow-joint, with such an

amount of injury to the soft tissues, are of rare occurrence, and because the treatment adopted has been successful in restoring a useful limb.

As to the treatment itself, I would only comment on the following points:

First, no attempt was made to close either the skin wound or the rent in the capsule, because, in my opinion, after such an injury suppuration is much more likely to result from any attempt to shut up the joint and to keep it from the air than from leaving the torn structures widely open and trusting to dry and aseptic dressings to prevent decomposition of the discharges.

It seems to me that such a wound as I found could not by any means be certainly made aseptic by any amount of cleansing, and if this were so it is evident that the sooner the first discharges escaped and were disinfected the better.

Secondly, there was no necessity in such a wound to use a drainage-tube, and although the quantity of fluid discharged necessitated frequent dressings it was evident that nothing was to be gained by syringing out or irrigating the joint so long as the synovial fluid remained clear.

Lastly, I must acknowledge that the patient owes at least as much to Dr. Thompson—the house-surgeon—as he does to myself. Without his constant care and attention I feel sure the result would have been a very different one.

XXIV.—*Case of Narcolepsy.* By R. Caton, M.D. *Read February* 8, 1889.

P. S., æt. 37, a poulterer, was admitted into my wards in the Liverpool Royal Infirmary on January 12, 1888, complaining of intense drowsiness and of chronic psoriasis.

History.—Patient has been the subject of chronic psoriasis for many years, but it has occasioned him little inconvenience. His family history is good. He has never had syphilis. He has been temperate as regards alcohol, but has probably been a large eater. He has been in a comfortable position all his life, and has not been overworked.

Prior to the year 1881 he had been (with the exception of the psoriasis) a perfectly healthy man all his life. At the beginning of that year his weight was 11 st. 4 lbs.; during that year he gained 4 st. in weight, and coincidently a tendency to drowsiness showed itself, and progressively increased month after month, causing him great inconvenience. He had been fond of attending the theatre, but now he slept soundly through the most exciting drama. During the year 1882 he further gained 3 st. in weight; the tendency to sleep became constant and overpowering. It had been his habit to entertain guests frequently, but now he fell soundly asleep while carving the joint at his own table. Reading and writing became quite impossible: the moment he sat down in a chair sleep came on, and even when standing or walking he would sink into sleep. Constantly while serving customers in his shop, sleep would come on as he stood by the counter; he would waken and find himself holding in his hand the duck or chicken which he had been selling to a customer a quarter of an hour before, the customer having meantime departed. His business of course suffered greatly. He repeatedly fell fast asleep while reading on the top of an omnibus, and had many narrow escapes, fellow passengers several times seized him when on the point of falling head first from the roof. He even fell asleep when walking in crowded streets, and not only collided with other foot passengers, but on some occasions had violent collisions with the lamp posts. He had great difficulty in dressing and undressing, as he constantly fell asleep during those operations. He slept soundly all night,

but had most peculiar and remarkable attacks of asphyxia, the nature of which I shall describe later. Salivation occurred moreover during sleep.

His condition was absolutely insupportable. He went from one medical adviser to another, but no treatment seemed of avail, and meantime his business was being ruined. At length he was advised to go to the country, and engage for a time in laborious field-work. He went to a Welsh farm where the air was pure and bracing, and worked all day in the fields.

Now his drowsiness decreased, he lost weight rapidly, and in three months he returned home greatly better, the attacks of asphyxia and salivation having ceased. He was now able to attend to his business, but unhappily by slow degrees all the old symptoms came back, until eventually he was as bad as ever, and in that condition he came to the Liverpool Infirmary.

On admission, we found the patient to be a stout man, about five feet five inches in height, with large abdomen, weight over 16 st. He looks ten years older than he is. Expression of face somewhat dull and sleepy. Slight bile tinting of conjunctivæ, none in the skin. Some dilated vessels in skin of face, cheeks rather flushed. Muscular development good; fair average muscular activity. Temperature normal.

Nervous system.—Patient (when awake) is thoroughly intelligent. Memory appears good. No abnormal irritability of temper; no headache; special senses normal; no sensory nor motor paralysis; no ataxia; reflexes normal; discs normal; no neuralgias; no pain of any kind; speech normal. During the daytime he is almost constantly asleep unless in active exercise or under mental excitation of some kind. If he stands or sits or reclines he falls asleep directly, notwithstanding strenuous efforts to remain awake.

When in sound sleep a very peculiar state of the glottis is observed, a spasmodic closure entirely suspending respiration. The thorax and abdomen are seen to heave from fruitless contractions of inspiratory and expiratory muscles; their efforts increase in violence for about a minute or a minute and a half, the skin meantime becoming more and more cyanosed, until at last, when the condition to the onlooker is most alarming, the glottic obstruction yields, a series of long inspirations and expirations follows, and the cyanosis disappears. This acute dyspnœic attack does not awaken the patient. After its cessation he breathes quietly and normally, perhaps for five, ten, or fifteen minutes, and then the spasm recurs.

If in the midst of the dyspnœic attack he be forcibly aroused, the glottic spasm at once relaxes.

The night nurse states that these attacks go on all through the night. Patient is himself unaware of them, excepting from what others tell him. His wife states that they have occurred with varying frequency for some years.

Alimentary system.—When awake lips are of normal colour. Tongue furred; appetite good; digestion good; liver somewhat enlarged; abdomen large and pendulous; a thick layer of abdominal fat; no soreness nor tenderness on palpation; no nausea; no thirst; no special constipation. He has a small umbilical hernia causing no symptoms. During sleep there is copious salivation, none during wakefulness.

Circulatory system.—Normal. No visible abnormality in the blood under the microscope.

Respiratory system.—Normal when the patient is awake.

Genito-urinary system.—Urine plentiful and quite normal in specific gravity and in other respects, excepting that a trace of albumen is found occasionally. Urea over 500 gr. in twenty-four hours. No excess of uric acid; no œdema anywhere. Sexual power not impaired.

Cutaneous system.—Extensive tracts of psoriasis on the arms and legs. This has existed for many years, but causes patient little inconvenience. Action of sweat-glands normal.

Diagnosis.—A careful investigation of the nervous condition having failed to reveal any signs of organic disease of brain, cord or peripheral nerves, I came to the conclusion that the case was probably one of auto-intoxication; that poisonous extractives, ptomaines, or leucomaines were present in the circulating fluid to an abnormal extent, and thus that the case is allied in some respects to uræmic poisoning.

The researches of Selim, Gautier, Bouchard and others have made known to us recently the existence of complex animal poisons, the product of ærobic and anærobic metabolisms within the body. These poisons are mainly narcotic in action, but are also convulsant and salivating, the convulsant poison, according to Bouchard, being chiefly produced during sleep.

The patient's symptoms might be explained on the hypothesis that the narcotic poison thus produced is constantly acting on his nervous system, and that when his cerebral centres are lulled into a condition of partial inactivity by the narcotic, so that there is less than the normal activity of inhibition, the convulsant and salivating poisons are able to pro-

duce an effect, the former acting by causing spasm of glottis. Why the convulsant poison should act upon the laryngeal muscles alone I confess I do not see. The fact remains that during deep sleep the patient always had the severe glottic spasm.

We all know that the researches of Bouchard have shown that when a man is doing hard muscular work and breathing plenty of pure country air the amount of narcotic and convulsant poison he eliminates is greatly diminished, and from this we may assume that the amount produced in his body is also diminished. This observation of Bouchard's tallies closely with the experience of my patient when he engaged in farm-work on a Welsh hill-side in a pure and bracing atmosphere. At that time the drowsiness, glottic spasm, and salivation alike disappeared.

I cannot say that I felt this to be a conclusively proven diagnosis, but it was the best attainable, and it was supported by the results of treatment.

The patient was first put upon a restricted diet, consisting largely of fruit and vegetables, and was kept under observation for a week or two without any further treatment than an occasional gentle aperient. There being no improvement of any kind, either as regards the glottic spasm, the salivation, or the drowsiness, I next gave him considerable doses of naphthalin, iodoform, and charcoal in order to produce intestinal antisepsis, and to destroy and eliminate poisons generated in the intestine and in the blood.

When the patient had taken this for two or three days he informed us that he was less sleepy, and this change soon became quite obvious to everyone. The spasms of the glottis became fewer in number and shorter in duration, the salivation during sleep lessened in amount. About a week later the spasms of the glottis disappeared entirely, and so also did the salivation. Patient became able to sit in a chair and remain awake, and to his great delight he was soon able to read a newspaper continuously for half an hour or more at a time. His weight gradually diminished. He did not entirely lose the drowsiness, but it was so immensely mitigated that what remained was practically of no importance. He resumed his business, and was able to devote himself to it as well as ever.

Thinking himself quite well, he discontinued the treatment, but unfortunately this was followed by a gradual return of all three symptoms, and when I last saw him he proposed to return to the Infirmary.

In conclusion, I may remark that numerous cases of narcolepsy or hypnolepsy have been recorded by Drs. Casse, Gelineau, Foot, Macnamara, Workman, Dieulafoy, Kennedy, Corley, and others, but in most of them there was evidence of disease of cerebrum, and none were analogous to the above case in their details.

The somnolence which occurs in the sleeping sickness of West Africa is more like that of my patient, but it is accompanied by emaciation, and it always terminates in death within a few months. I have not yet found anything in medical literature which throws much light on this case, and as the patient is likely to come into my hands again, I shall be very grateful if any member of this Society can give me hints in reference to diagnosis or treatment.

XXV.—*A case of Hystero-Epilepsy; with persistent contracture, analgesia and anæsthesia, limited to one upper extremity, in a male subject.* By Thomas Savill, M.D. *Read February* 8, 1889.

THE case of the patient whom I submitted to the Society on November 23, 1888, and who is here again this evening, presents three points of interest:

1. The comparative rarity of hystero-epilepsy in the male, at least in this country.

2. The clinical features of the anæsthesia and contracture of the right arm.

3. The results of a recently revived method of treament—hypnotism.

The man (Thomas G.,) is æt. 29, a hawker by occupation. He was admitted into the Paddington Infirmary on September 29, 1888, complaining of "contraction of the right arm," which he had had for two and a half years, and of fits, which he had had for five years.

His condition on admission, and when first shown at this Society, was as follows:

The right wrist and elbow joints were rigidly flexed to a right angle, the shoulder was fixed so that the upper arm was pressed againt the thorax. The fingers and thumb, which were of a purplish hue, were in a position of extension, but tightly drawn together into the form of a cone (Fig. 14). The most forcible attempts at flexion or extension of the affected joints produced no effect whatever; the limb was as rigid as as bar of iron.

He informed us that he had found his right arm in exactly the same state as it was then after a fit of unusual severity two and a half years previously, and that it had remained in exactly the same condition ever since.

There was marked diminution of volume of both segments of the arm, as shown by the following comparative measurements. Left upper arm 11 inches, left forearm 10⅜ inches. Right upper arm 10 inches, right forearm 9⅝ inches.

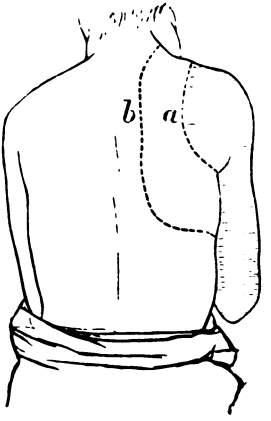
The faradic and galvanic contractility of the affected muscles, as well as they could be tested, were not materially different from those of the healthy arm. The skin was harsh

and dry in the affected limb, and these conditions accounted for the trifling difference observed.*

There was complete *anæsthesia* and *analgesia* over the whole of the upper extremity and part of chest (Figs. 14 and 15), bounded by sharply defined lines as here shown, the areæ

FIG. 14.

FIG. 15.



not corresponding with the distribution of any sensory nerve or group of nerves. The sensation to heat and cold were quite lost over the same area.

The patella reflexes were slightly and equally increased on both sides. The superficial reflexes were unmodified, and ankleclonus could not be elicited.

There was no weakness of any of the other limbs nor of any cranial nerve.

The senses of hearing, smell, taste, and sight appeared to be normal, excepting that in the latter there was marked retractiou of the field of vision of both eyes;† but repeated examination of the fundi revealed no changes either in the retinæ or optic discs;‡ the corneæ were clear and the pupils normal.

The reflex excitability of the pharynx was absent. The heart sounds were quite normal, as also were the other organs and the urine.

He has very little hair on his face, but is robust and well

* When the contracture became less, the reactions were found to be normal.
† When tested by my colleague Dr. H. E. Harris on Oct. 28.
‡ Kindly confirmed by Mr. J. B. Lawford.

built; the testicles are normal and not unduly sensitive. There are no scars or signs of injury on the head; no blue lines on the gums, no changes in the teeth.

The patient's family history is instructive. His mother has had fits for fifteen years and has been in Hanwell Lunatic Asylum; one sister was subject to fits, and died of "paralysis;" one brother died of "paralysis of the brain" in Colney Hatch, and a maternal uncle was in the same asylum.

The patent joined the army early in life and drank heavily, but gives no history of syphilis. He states that he was quite well till the age of 22, when he had an attack of "rheumatic fever" lasting seven weeks and followed by "delirium," on account of which he was discharged from the army and sent for a time to the Cork Lunatic Asylum. Two years later, that is five years before admission, he had his first series of fits. These were very violent, and "he ran away from home." He was found three days afterwards by his friends in a churchyard, besmeared with mud and blood, and was sent to Colney Hatch Asylum, where he remained for three months. Since then he has had a constant succession of fits, which the patient describes as of two sorts, "*little fits*" lasting only a few minutes, and "*mad tempers*" extending in a series over several days, in which he would perform acts of great violence. It was after a series of these latter (March 11, 1886) that he found his right arm had become drawn into the same condition as it was on admission.

During the four months he has been under observation the following additional facts have been noted:

Great tenderness in both inguinal regions: firm pressure here is followed by sighing, crying, or laughter, but it does not initiate or arrest a fit. No hysterogenic zones can be discovered.

His fits are of two distinct kinds, neither of which is preceded by an aura. The lesser kind are truly *epileptic* in character. He has had an average of one to ten a day. Each one commences with a stifled cry, then he falls immediately, sometimes, but not often, hurting himself. The body becomes rigid and twitches convulsively; then stertorous respiration follows, and after about two minutes he comes round in a drowsy condition. The conjunctivæ are quite insensitive all the while, and there are no localised or partial convulsions, nor is the right arm relaxed.

This was the only kind of fit observed until ten days after admission, when he had a series of bad fits ("mad tempers") extending over sixteen days. He had three to twenty per

diem, separated usually by intervals of semi-consciousness. Many of these I witnessed myself. Each fit commenced in the same way as the other variety, though the cry was much louder. The *epileptoid* stage was soon succeeded by one of violent *clonic convulsions*, which were general from the beginning, and during this stage he often arched his back and threw himself violently about. His strength at these times seemed immense, and it was impossible to keep him on the bed. There was never any modification in the rigidity of the right arm. This stage was succeeded by one of *purposive* movements, during which he clutched at the bed-clothes, tried to dress himself, &c., which acts it was dangerous to interfere with. Each fit was concluded by incoherent *delirium*, in which he usually talked about his mother. Each of these stages was not invariably present, and the same sequence was not always observed.

The whole fit lasted from two to fifteen minutes. He would often awake sobbing bitterly, or remain in a state of somnolence or semi-consciousness until the next one came on. His conjunctivæ were insensitive in the early part, but after the fit he could remember what he had done and what was done to him. On one occasion he passed urine involuntarily, but he has never passed fæces.*

He has never bitten his tongue though he has often bruised himself. Five minims inj. apomorphinæ hypodermically administered on October 22 made him sick, brought a return of consciousness, and prevented a recurrence of the fits for several hours.

He has not had a return of this kind of fit since October 24, when the "storm" ended, excepting once on October 29 after being vexed. But the other kind of fit has continued, though with decreasing severity and frequency.

With regard to his mind the patient is decidedly emotional. He is very impulsive, gets out of temper very easily, and is variable and uncertain in his moods. Sometimes he is docile and child-like, at others as obstinate as a mule. He is very suspicious and has a great tendency to become melancholy. His memory is good; he is fairly educated, is fond of reading, and has learned to write with his left hand since his right has been disabled.

The contracture of the arm (tested on many occasions) has

* Tongue-biting and involuntary micturition, though not usual, are sometimes observed in hystero-epilepsy with mixed crises. Charcot, *Leçons sur les Maladies du Système Nerveux*, t. iii, p. 267.

persisted in exactly the same degree, sleeping or waking, until recently, but when the patient was fully under the influence of chloroform (on October 24) it entirely disappeared, and the movements were as free as the slight changes in the joint structures would allow. Afterwards the contracture returned to its former condition. The general temperature has always been normal, the surface temperature of the contracted arm being 1° lower than the other.

Treatment.—During the first week he was put on biniodide of mercury, and he also had bromide of potassium from time to time for a month, but without any obvious effect on the fits or the contracture. The injection of apomorphine was the only drug which had any effect on the severe fits.

On November 30 another method of treatment, hypnotism, was instituted by Mr. G. A. Smith, acting under the direction of Dr. A. T. Myers. The patient was found to be pretty easily hypnotisible, and eight sittings have been held up to the present time.*

In addition to other treatment he was encouraged from day to day to believe that he could move his arm if he chose;

* *Note by Dr. A. T. Myers.*—As it seemed difficult to obtain improvement by rest alone, or by many other methods that had been tried, Dr. Savill kindly asked me to visit the patient and provide some hypnotic treatment. I was able to put the services of Mr. G. A. Smith at his disposal, a gentleman long accustomed to attempt hypnotism under the direction of others. On his first visit to the Paddington Infirmary, on November 30, 1888, he found the patient in the condition of rigid and extreme contracture of the right elbow, wrist, and fingers, which Dr. Savill has described. Mr. G. A. Smith engaged the fixed attention of the patient by looking closely into his open eyes, and making a few passes in front of them. Light hypnotic sleep was easily obtained in about five minutes. There was then no difficulty in extending and stiffening his left and normal arm by command or manipulation, and afterwards, when it was made supple again, in inducing him irresistibly to follow with this left arm any motion that Mr. Smith made. Of the right contracted arm trifling relaxation was at first obtained by command, manipulation, or imitation. At the fourth sitting, however (December 1), during a light hypnotic sleep gentle manipulation of the wrist and fingers by Mr. Smith produced very considerable relaxation of the flexors. The relaxation sometimes persisted for a minute or two after the manipulation had ceased, but it was often interrupted by a tonic flexor spasm, which again relaxed after further treatment. The wrist was sometimes completely straightened and flaccid on this and subsequent occasions, the elbow less completely, the fingers least of all. Post-hypnotic suggestions of various definite acts were made, but were never carried out; they seemed to have been entirely forgotten by the patient when he regained full consciousness. The more general suggestions made in the hypnotic state, that the arm would become straighter and more flexible, were followed by some permanent improvement, but there was no certain evidence that they stood in the relation of cause and effect. The temporary complete relaxation of the wrist was not observed under any other condition than that of slight hypnotism. The best results in this case appear to have been arrived at by gentle passive motion during the hypnotic state, or what might be called "muscular suggestion."

and as a therapeutic agent the rest and regular routine of the Infirmary must not be forgotten.

At the present time (February, 1889) the contracture is considerably less and is partially absent during sleep. The anæsthesia and analgesia exist precisely as before, and now that the joints can be moved it can be seen that there is total loss of muscular sense. The severe fits have never returned since October 29, and the slight fits are much less frequent, for whereas he had on admission five to ten fits every day, he now has one or two every other day or so.

Remarks.—A localised paralysis of one limb attended by rigidity might suggest some injury or disease of the nerve-trunks which supply it.

Cases of injury to brachial flexes are published by Dr. Ross in *Brain.** But both injury and disease of the nerve-trunks is negatived in this case by the mode of advent, the absence of Erb's reaction, and the non-correspondence of the motor and sensory lesions.

A focal lesion of the brain—either embolism, hæmorrhage, or tumour—strictly limited to the arm-centre or strand of fibres, is a more reasonable hypothesis and is supported by the long duration and the existence of convulsive seizures (after one of which the contracture appeared). But the absence of optic neuritis or atrophy is a strong argument against intracranial disease, at least tumour.

A unique case of brachial monoplegia from focal lesion of the internal capsule has been recorded by Drs. Bennett and Campbell,† but there was not any anæsthesia or rigidity.

Lesions of the internal capsule which give rise to hemiplegia accompanied with hemianæsthesia are generally situated in the posterior part of the capsule through which the leg-fibres pass, the arm-fibres being further forward in front of the trunk-fibres. Hence one would have to suppose two separate lesions in this position to explain our case even imperfectly. On the other hand, the segmental anæsthesia in this case corresponds almost exactly with several cases of male hysteria recently published by Charcot.‡

Moreover, this rigidity of the arm reveals the three distinctive features of hysterical contracture:

1. It reached its maximum degree at the very outset, a point on which the patient is very clear.

* *Brain*, April, 1884, p. 70.
† *Brain*, April, 1885, p. 78.
‡ *Leçons cliniques des Maladies du Système Nerveux*, t. iii, chaps. 18—22.

2. It continued at all hours of the day and night in the same condition, a fact of which we repeatedly assured ourselves.

3. The intensity with which it involved all the muscles of the arm.

As to its disappearance under chloroform, I recently had occasion to examine by these means a case of arm rigidity due to undoubted lateral sclerosis,* and found that it almost completely disappeared under chloroform, so the reputed value of this feature requires some qualification.

In support of the diagnosis of hysteria in this case I would submit the following:

1. The characters of the contracture just mentioned.

2. The presence of segmental anæsthesia and analgesia in the affected limb.

3. The phenomena produced by pressure in the inguinal regions, the mental condition, the retraction of the field of vision in the absence of discoverable changes in the eyes, and the abolition of pharyngeal reflex.

4. The characters of series of the fits (October 9—24), which correspond in all important details with the classical description by Prof. Charcot of hystero-epilepsy with mixed crises.†

As to the permanence of the symptoms, it should be borne in mind that hysterical symptoms even in the female may sometimes present a remarkable pertinacity. And it would seem from cases collected in France‡ that hysteria in the male is distinguished from that in the female by the tendency to:

1. Permanence of the symptoms.

2. A melancholic turn of mind.

Hysteria in the male is not of very frequent occurrence in England, and hystero-epilepsy is of still less frequency. I have only been able to find records of four undoubted cases of hystero-epilepsy in the male from English sources.§ It is possible that these cases get into the epileptic wards of some of our large lunatic asylums, and when not pronounced escape detection.

A case of hystero-epilepsy in a woman was treated by

* The man W., who had been operated on two years before for traumatic hemi-epilepsy, and in whom there existed all the signs of descending lateral sclerosis.

† *Leçons sur les Maladies du Système Nerveux*, t. i, ch. 13.

‡ Charcot, op. cit., t. iii, p. 254, &c.

§ J. Dreschfeld, *Medical Chronicle*, Dec., 1886, p. 169; Brooke Gallway, *Med. Times and Gaz.*, vol. ii, 1854, p. 572; J. Althaus, *Med. Times and Gas.*, vol. i, 1870, p. 384; Byrom Bramwell, *Lancet*, vol. ii, 1875, p. 347.

hypnotism by M. Sollier, in Paris, with excellent results;* and another case in a man was similarly treated by Prof. Mendel in Germany,† but I am not aware with what result. As regards the results of hypnotism in my case, all that can be said is that the contracture of the arm became relaxed under its influence at a time when it was not relaxed during ordinary sleep. The results of "imitation" and "post-hypnotic suggestion" were negative. The long duration of the contracture (2½ years) should be borne in mind; it is possible that by perseverance more might be achieved.

* *Brit. Med. Journ.*, vol. ii, 1887, p. 1304.
† Ibid., p. 268.

XXVI.—*Case of Raynaud's Disease, with a peculiar eruption on the face, scaly at first, subsequently like erysipelas: death from pneumonia: post-mortem negative.* By Samuel West, M.D. *Read February 8, 1889.*

On July 26, 1888, Harriet S., æt. 17, presented herself at the out-patient department complaining of feeling ill and of suffering with cold hands and feet. While in the room she turned faint, and shortly afterwards the face became pinched and blue, as if it had been exposed to great cold, and the ends of the fingers of both hands and of the toes of both feet turned a deep purple colour, and remained so for about twenty minutes, after which time they slowly regained their natural condition. The case was regarded as one of Raynaud's disease, and was admitted into the hospital.

The patient is one of several children of whom two boys died when infants, one of scarlet fever and one of bronchitis; the rest are healthy. The mother and father are strong, but the father suffers from attacks of coldness and whiteness of the fingers occasionally in cold weather.

The patient herself was always a healthy child, and beyond measles and whooping-cough had never been ill. The catamenia commenced at 15, and had been irregular and scanty. About one year ago she first observed that her hands and feet often became cold, and would turn white if she got at all chilled. They used to remain white for half an hour or so, and then became red, and burned and tingled with a sensation of pins and needles. The complaint began in the summer, and at a time when the heat was extreme. These attacks continued at intervals for the space of a month, and then entirely disappeared, and did not again recur until Christmas-time, when they returned in a much aggravated form. The fingers and toes would turn white, and in the course of half an hour or so become red and at last purple. During this time they felt numbed and very cold. After an interval, which varied in different attacks, the colour and feeling gradually returned. Such attacks would come on often twice in the day, though

quite irregularly, and now and then they might be absent for a day or two. They have become more frequent and prolonged lately.

About the same time a rash made its appearance on the face, for which she placed herself under treatment in the skin department, but without benefit.

For the last three years she has been earning her living as a French polisher, but lately has not been well enough to follow her occupation. It has never been noticed by the patient or her mother that she has passed blood in the urine.

Present condition. — The patient is feeble and poorly nourished, though not actually thin. The pulse 80, feeble, and of low tension, the respirations 18. The internal organs appear to be healthy, and the urine natural. The fingers and toes of both sides look as if they are affected with broken chilblains, the distal half is swollen, and the skin dusky red and peeling off in flakes, and beneath, *i. e.* on the palmar and plantar surfaces, there are large blebs containing puriform fluid, on the evacuation of which the skin peels off, leaving the cutis eroded. The face is slightly swollen about the eyelids, nose, and upper lip. The cheeks and nose are covered with a purplish patchy erythema, and upon the outer parts of the cheeks and upon the ears there is a fine greyish powdery crust, looking much as if flour or starch had been powdered on and had caked there. With some difficulty it can be rubbed off, and the surface beneath is then found dry and harsh to the touch, and with the purple colour described, but not otherwise abnormal. There is no trace of eczema anywhere, and the eruption resembles most a pityriasis.

The patient remained in the hospital until July 12. The fingers went purple every day once, and on one or two occasions twice. The toes were never observed to be affected while she was in the hospital. The face improved greatly under simple treatment with zinc ointment, but the rash had not entirely gone by the time of her discharge.

In general condition she had greatly improved, and the appetite was good. The urine was carefully examined on several occasions and at no time contained either albumen or blood.

The day after leaving she had an attack of giddiness, complained of pains in her legs, and of feeling very weak and ill. The face began to swell, and turned a light purple colour. The patient became very unwell, and was kept in bed, and as she seemed to be getting worse the mother brought

as the radial, were also examined microscopically, and found normal, and no abnormal change was found in the medulla, so that with the exception of the pneumonia, the result of post-mortem examination was as usual negative.

All cases of Raynaud's disease are of interest and deserve to be recorded, especially if there has been a post-mortem examination, and even when, as is usual, the result has been negative.

The special points of interest in this case are two :

1. The occurrence of pneumonia, which caused the patient's death, and

2. The condition of the skin of the face.

The pneumonia must be regarded as an accidental complication, having nothing especially to do with the disease. It is remarkable that it yielded so few physical signs during life that the cause of the febrile attack remained so long uncertain.

The eruption on the face was, I believe, a part of the disease, and due to a disturbance of nutrition of the same character as that in the extremities. When the attack of blueness of the fingers came on, the face also became blue and livid, especially the tips of the nose and ears, but also the lips and the parts of the cheeks where the rash was seen. The scaly pityriasis-like eruption was of long standing, and caused the patient to put herself under treatment. The subsequent swelling which brought her back to the hospital closely resembled erysipelas in general appearance, but it differed from it in the absence of a raised margin, of glandular enlargement, and of high temperature, as well as in its duration. I may say that I asked for the opinion of several of my colleagues, both surgical and medical, at St. Bartholomew's, who all agreed that the rash was not erysipelas. When the swelling developed the scaly eruption became more abundant, but it was not until the pneumonia set in that the temperature rose.

If, as I believe, the face eruption be part of the disease in this patient it is, so far as I know, the only instance in which nutritive changes in the skin of the face have been observed, with the exception of a case recorded by Weiss, of Prague, and referred to by Dr. Barlow in the complete and excellent monograph on Raynaud's disease recently published by him in the Sydenham Society's series. I have wished to bring the case before the Clinical Society in order that I might add it, during Dr. Barlow's secretariat, to the valuable series of cases of Raynaud's disease already recorded in the *Transactions*.

XXVII.—*A case of Tubercular Disease in which inversion of the temperature curve was an important aid in diagnosis.* By David W. Finlay, M.D. *Read February* 22, 1889.

THERE is no fact in clinical medicine better established than the constancy with which, speaking generally, the temperature of the body is found to be higher in the evening than in the morning both in health and disease; and when in the course of a febrile attack we find a marked exception to this rule, the circumstance is sufficiently noteworthy to arrest attention. The case which I am about to relate illustrates the unwonted condition referred to.

E. R., æt. 9, came under my care in the Middlesex Hospital on March 23, 1886. She was stated to have been a healthy child up to about six weeks before admission, when she began to suffer from loss of appetite, headache and general malaise. She was considered then to be suffering from an attack of enteric fever for which she was treated at a dispensary. Her bowels had been constipated.

On admission her pulse was 80, regular, small and compressible, temp. 98·6°, resp. 23. The tongue was dry, red, and coated with a thin brownish fur. The skin was harsh and dry; there was no eruption. She was a poorly-nourished child with pallid complexion; dilated, equal, and sluggish pupils, and dry lips thinly coated with sordes. She had an occasional dry cough, but complained only of want of appetite and weakness. The belly was distended, tense, and tympanitic. The area of liver dulness was normal; that of the spleen slightly increased, although its edge could not be felt below the ribs. Nothing abnormal was found within the chest with the exception of a few scattered coarse râles.

The urine was acid, of specific gravity 1026, turbid with lithates, and free from albumen and sugar. It should be mentioned that a brother, aged 16, had just returned from a Convalescent Home having been previously laid up with enteric fever.

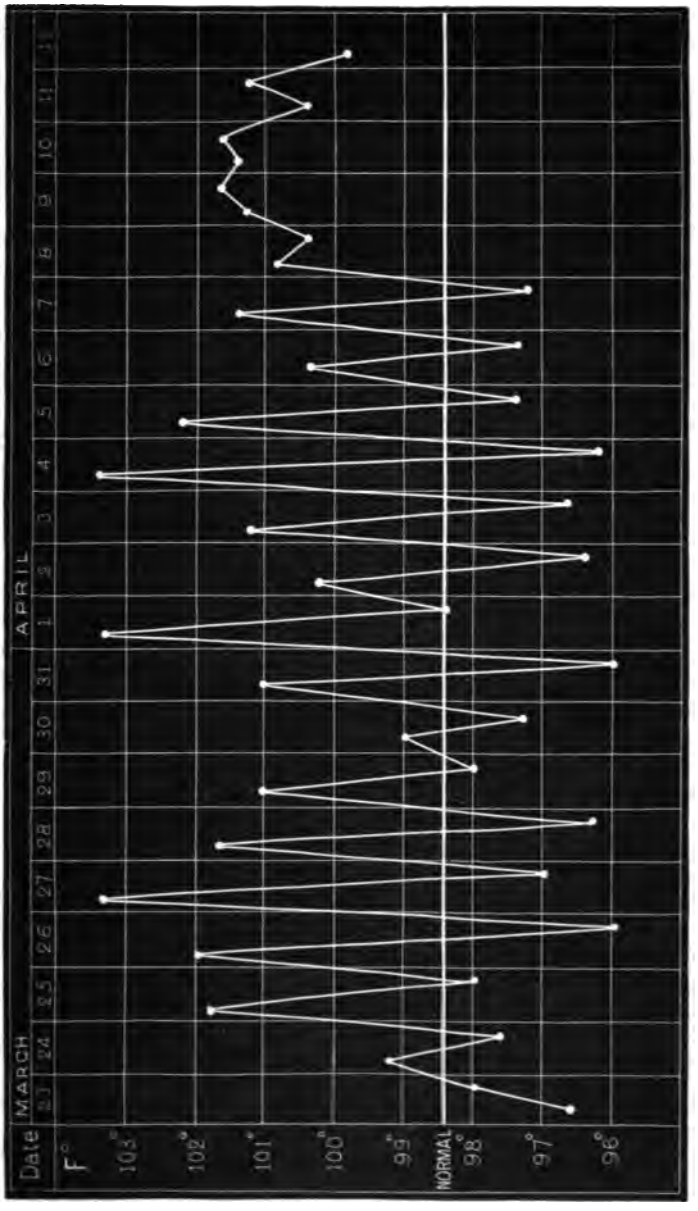
The patient's bowels remained constipated for three or four days, after which she had some diarrhœa, the stools being light in colour and offensive. Otherwise but little change was noted in her condition till three days before her death, when it was thought that some matting of intestines could be felt through the abdominal wall. A trace of albumen had also appeared in the urine. She died on April 12.

The point of chief interest lay in the course of the temperature, which, during the greater part of the continuance of the case, was consistently higher in the morning than at night, in fact the temperature curve was inverted. This will appear clearly from a glance at the accompanying chart. Looking to the history and other points of the case, I was for a time inclined to the opinion that the child was suffering from a relapse of enteric fever, but as the case proceeded this view was given up in favour of a diagnosis of tuberculosis to which I was guided mainly by the peculiarity in the temperature curve just referred to. This conclusion was borne out by the post-mortem examination, which, however, also disclosed other points of interest.

On opening the peritoneal cavity the whole surface of the membrane was seen to be studded with miliary and caseous granulations; the coils of intestine were firmly adherent to each other, and the mesenteric glands were enlarged and caseous.

At the apex of the right lung there was a small area of collapse in which was situated a cavity surrounded by pigmented granulations, the rest of the lung, together with the whole of the left lung, being completely infiltrated with small caseous nodules. The pleura and pericardium were also infiltrated. The heart was normal, and the liver free from tubercle. The spleen contained a few small caseous nodules, and some were also present in each kidney. The intestines presented the following appearance:—There were several ulcers in the small intestine which were undoubtedly of tubercular origin. This was evidenced by the presence of miliary tubercles in the serous coat of the bowel. In addition, however, Peyer's patches were unusually prominent and pigmented. Here and there were traces of previous ulceration. These appearances, together with the history of the case, rendered it probable either that the child had suffered from a mild attack of enteric fever, during convalescence from which she had been attacked by tuberculosis, or that the enteric fever had been the means of starting into fresh activity a quiescent focus of tubercular disease which might be found in the small cavity at the apex of the right lung or in the caseous mesenteric glands.

I suppose that every physician has experienced the difficulty at one time or another of making the diagnosis between enteric fever and tuberculosis, and any point which may help, even in exceptional cases, to solve the difficulty must be welcome. In the inversion of the temperature curve I think we have such a point. (*Vide* Chart on opposite page.)


Date
MARCH
APRIL
F°
103°
102°
101°
100°
99°
NORMAL
98°
97°
96°

It has indeed been stated by a recent writer that this inversion has been noticed in some rare instances in enteric fever, but I have been unable to find any references in proof of this statement. So far as my own observation has gone I cannot recall such a case, and I find no mention of the circumstance in Murchison's work on fever, or Wunderlich's on medical thermometry.

On the other hand, this peculiarity in temperature has been noted by several writers as occurring in acute tubercular disease. Wunderlich remarks on the temperature in acute phthisis that "the daily maxima occur not very infrequently in the morning" (*Medical Thermometry*, Sydenham Soc., p. 411); Hirtz, writing on temperature in disease (*Jaccoud's Dictionary*, vol. vi, p. 780), says that it is rare for the morning temperature to be higher than that of the evening, but that he has observed it in acute phthisis. Ruehle also states (*Ziemssen's Cyclopædia of the Practice of Medicine*, vol. v, p. 624) that it is "the diversity and irregularity of the curves in acute miliary tuberculosis which distinguish it from other febrile diseases with which it is apt to be confounded;" and "that the inverse type, with high morning and lower evening temperatures, has been found in miliary tuberculosis more frequently than in other febrile diseases."

The same condition appears also to have been noted by one or two writers as occurring in the pneumonia or bronchopneumonia of children.

So that in the inversion of temperature, speaking generally, we have, when it does occur, a point of some importance in differential diagnosis, and by consequence in prognosis as well. I think it was more marked in the present case than it generally is, although observers differ on this point, Hirtz stating that when observed it is a passing condition; and Smoler that when it is present at the beginning of the illness it continues all through.

Looking to the particular case just related, the temperature curve would be quite enough to negative the idea of enteric fever, and it is perhaps not too much to say that it would almost suffice of itself to justify the diagnosis of tubercle.

The experiences of members of the Society both as to the frequency and the conditions of the occurrence of inverted temperature curve and the mode of its course cannot fail to be interesting, and it is in the hope of eliciting these that I bring forward this communication.

XXVIII.—*A case of Suppression of Urine caused by impaction of calculi in both ureters, relieved by operation.* By Charles H. Ralfe, M.D., and Rickman J. Godlee, M.S. *Read February* 22, 1889.

Miss S., æt. 26, had been previously under the care of Dr. Brookhouse, of Brockley, for acute rheumatism four years before, and for distinct attacks of renal colic since December, 1887. These had been ten or twelve in number, mostly on the right side, but sometimes on the left, the latter having been most severe. They had been quite typical in character, and had been sometimes, but not always, accompanied by hæmaturia. The urine had at other times always been normal, of a deep colour, with high specific gravity, but never albuminous, except when blood was present.

She was pale and anæmic, but well nourished, with rather a poor appetite, and a teetotaller. Her family history was good, and there was apparently no hereditary tendency to rheumatism; but it is pointed out by Dr. Brookhouse that the neighbourhood of Brockley appears to be peculiarly favorable to the development of calculus, or at all events of renal colic, possibly from the fact of the water supplied by the Kent Waterworks containing large quantities of carbonate of lime, more, indeed, than that of any other of the waterworks which serve the metropolis. At the same time it may be pointed out that the relation between the drinking of water containing lime and the formation of renal calculus has never been decidedly proved. Dr. Parkes (*Hygiene*, 5th ed., p. 56), says: "It has long been a popular opinion that drinking lime-water gives rise to calculi—on a large scale, statistical evidence is wanting. The excess of cases of calculi in Norfolk generally is not attributed to the water. In Canton stone is common, whilst at Amoy, Shanghai, and Ningpo it is not met with. The cause of difference is not known, but it is not hard water, since the Chinese always drink boiled water."

During the week preceding August 3, namely, on July 31, there was an attack of *right* renal colic, which passed away in the usual manner. It was followed on the same day by colic on the *left* side, which, though the more acute pain had passed

away, still remained as a diffuse dull aching, which rendered the erect posture impossible, up to the time when we saw her together with Dr. Brookhouse and Mr. Macartney, on the afternoon of August 3, about 4 P.M. At this time there had been complete suppression of urine for fifty-three hours, the cause of which, it seemed hardly possible to doubt, was the impaction of calculi in both ureters. The day before the patient had been placed upon the hands and knees and the loins and abdomen had been kneaded, after which about a tablespoonful of bloody urine had been evacuated.

The question we put before ourselves was, whether we should be justified in waiting for the chance of either calculus being dislodged by natural means, aiding it perhaps by the copious administration of distilled water, and thus following the example of Mr. Pick in a somewhat similar case (*Clinical Society's Transactions*, vol. xix, p. 270, "Case of Impaction of Stone in one Ureter, Atrophy of Kidney of opposite side," by T. Pickering Pick), or whether we should not be doing the best thing for our patient by freeing her, by means of an incision into the left kidney, from a danger which, though perhaps not absolutely immediate, was becoming every hour more near, and the precise advent of which could not be in any way determined. We discussed the possibility of leaving a permanent urinary fistula if the calculus were not met with, and the increased risk of administering an anæsthetic if uræmic symptoms became more marked. They were not at this time much advanced, the pulse was hard and rather slow, 64; but it is always a slow pulse. There was dull headache and a slight feeling of confusion, but the skin was not dry, the pupils were quite normal, and there was no vomiting and no subsultus tendinum.

After weighing the facts it was decided to operate. Chloroform was administered and the urethra was first dilated, so that the orifices of the ureters might be examined with the tip of the finger, but nothing was discovered there.

The left kidney was then exposed by the usual transverse lumbar incision. It was punctured with a needle, but no stone was struck, so an incision was made near the lower part of the outer border through its substance until the pelvis was opened. It may seem remarkable, but is, we believe, the rule and not the exception that the pelvis was little if at all dilated, and the amount of urine contained was quite small. The fact is that the sudden stoppage of the ureter leads at first to a complete upset of the function of the kidney, which there-

fore stops secreting for a time. This subject is fully discussed by Sir William Roberts (Roberts *On the Urine,* 3rd edition, pp. 24 and 26), and by Dr. Hilton Fagge (Fagge's *Principles and Practice of Medicine,* 1886, vol. ii, p. 387). It also formed the subject of a paper read by one of us at the Royal Medical and Chirurgical Society (vol. lxx, 1887, p. 237, "On a Case of Obstruction of one Ureter by a Calculus, accompanied by Suppression of Urine," by R. J. Godlee), describing a case where complete suppression followed obstruction of one ureter only.

No calculus or gravel was found in the kidney, but on passing the finger below the lower end of it along the course of the ureter, a minute hard mass was felt at what appeared to be about two inches below, but possibly was at not quite so great a distance from the kidney. This hard mass was drawn towards the wound by means, first, of a blunt hook, and then, when it became possible, by means of the left index finger, and after ascertaining for certain that we were dealing with a stone, by pricking it with a needle in a holder, a vertical incision was made upon it just sufficiently large to allow of the escape of the calculus, which was then, with some difficulty, extracted from the wound (*vide* Fig. 17), and the ureter was allowed to slip back into its natural position. To those who have not undertaken this operation it may occur to put the question why no attempt was made, 1st, to push the calculus up into the kidney, and, 2nd, after extracting it, to stitch the edges of the wound in the ureter together. The depth of the ureter in a stout patient is very considerable, and would make any attempt at working a small calculus up it, if undistended, probably quite as impossible as it would be to stitch up the small wound that had been made; and, moreover, the latter is quite unnecessary, for the ureter has a strong tendency to heal of itself if the division of it be not complete and if the urine can escape freely from the kidney. We felt sure, therefore, that this would happen when a large drainage-tube was inserted into the pelvis, a precaution which was taken to ensure the escape of the urine in case the wound should be obstructed by clots, or the passage down the ureter should not remain free.

Fig. 17.

The following day, when the sickness which followed the anæsthetic had passed off, the patient was comfortable. A considerable quantity of water, which obviously could not be

measured, was passed through the wound, but none by the bladder. The temp. rose to 100·6°, and the pulse to 88.

Nothing occurred worthy of note till the afternoon of August 6, three days after the operation, by which time the temperature had fallen to normal, and the pulse to 64. Then, after an enema, a small quantity of water was passed *per urethram*. The patient had been lying a good deal upon the sound side, and the dressings were less soaked than before. The tube was shortened by one inch so that it no longer entered the kidney.

Between the 7th and 12th she passed urine by the urethra in amounts varying from 25 to 35 oz., slightly albuminous, most likely because it contained a trace of blood. During this time the tongue, which had been thickly furred, gradually cleaned, and there was a continuous return of appetite.

On the 13th there was a slight attack of *right* renal colic, which was relieved by the administration of ¼ gr. morphia hypodermically.

On the 15th the tube and the stitches were removed from the wound.

It is a remarkable fact that, although there had been apparently very little soaking of the dressings for some days before the removal of the tube, the amount of urine passed on the following and succeeding days increased considerably in quantity. Before the removal it varied from 20 to 30 oz.; afterwards it varied from 40 to 70 oz. and was usually about 60 oz. The flow from the wound did not entirely cease until the 28th, and it varied somewhat from day to day. It will be seen by the subsequent notes that it is just possible that a certain amount of urine may have found its way down the *right* ureter about this time. The total quantity secreted was, moreover, no doubt increased by the fact that the patient began to take distilled water in greater amount than before.

On the 23rd there was another sharp attack of right renal colic, which lasted about twelve hours and was relieved by ⅙ gr. morphia subcutaneously. More urine was passed by the wound and less by the urethra, the latter being 42 oz., and perfectly clear and free from blood. On the following day, however, 70 oz.were passed.

On September 3 it was decided to incise the right kidney in the hope that a calculus might be found in a similar position to that occupied by the stone on the left side. We thought that the right ureter was probably still obstructed, and we feared that unless the obstruction were removed, the

kidney would become quite disorganised. It is necessary here to disarm criticism by confessing that it was an omission not to sound the bladder or introduce the finger into it before performing nephrotomy. It is at least possible that the stone which was subsequently passed might have been found in the bladder at this time. Had this been the case, however, we should, as the event proved, have left behind the nucleus of a fresh calculous formation in the kidney.

The operation was carried out in precisely the same manner as that performed upon the opposite side. The kidney was found to be small and hard and the pelvis was dilated, but it contained no actual stone, though a considerable quantity of gravel mixed with mucus was cleared away. The finger passed along the ureter was able to trace it as far as the brim of the pelvis, and a pair of fine curved forceps such as may be used for extracting a foreign body from the bronchus was without much difficulty passed into the somewhat dilated ureter so far down that the points were felt between the tip of the left index finger and the iliac vessels, the pulsation of which it was quite easy to detect. A tube was left in the pelvis of the kidney with the object of enabling us, if necessary, to attempt at a later stage to dislodge the calculus by hydraulic pressure.

On the two following days blood and grit were mixed with the water. The blood gradually diminished and ceased, but sand was passed in varying quantity until September 12, *i. e.* nine days after the operation, the amount of urine passing from the wound in the meantime gradually diminishing, and that passed *per urethram* being, as before, between 40 and 70 oz.

On September 14, as the urine escaping from the wound was very small in amount, and as we felt sure that the ureter was patent, we were anxious to remove the tube, but before doing so, in order to test the patency of the ureter, a small india-rubber tube six inches long was introduced into the drainage-tube, and to the end of this was fixed a funnel, the patient in the meantime lying upon the left side, and the bladder having been emptied beforehand. About 2 oz. of one in 4000 sublimate solution pretty deeply stained with ink were then poured through the funnel into the kidney. This produced a sensation of fulness and pain almost approaching to a renal colic. A few minutes afterwards she passed, with a little pain, the ink-stained fluid. The bladder had been previously sounded and no calculus had been struck. The

tube was accordingly removed and the wound allowed to heal. Complete closure took place by September 26.

On September 15, that is the day after the experiment with the ink, a small stone, one third of an inch long, was passed *per urethram.*

Nothing else has to be said about the progress of the case up to this date, except that about the 24th a little incontinence occurred. This, as well as a little cystitis, together with a certain amount of decomposition of the urine, must no doubt be laid at the door of the digital exploration of the bladder. It is an evil which must occasionally follow such a procedure, but we do not think that a nephrotomy in such a case as this could be justifiable without ascertaining that the stone is not impacted at the extreme lower end of the ureter. As a matter of fact it has been shown by one of us (*Practitioner*, 1887) that a careful vaginal examination may fail to detect the existence of a comparatively large stone in this situation. In the case referred to the attention of those who examined was not specially directed to this point, but we feel sure that a small calculus would escape detection, however much its presence might be suspected.

The parts of the ureter where stones are most likely to become arrested are:

1. The orifice of the ureter,
2. The brim of the pelvis, and apparently
3. About two inches below the kidney.

No. 1 is a narrow place, No. 2 is a place were the abrupt curve of the tube naturally favours impaction, and we add No. 3 from the experience of two cases, though we can adduce no anatomical reasons for it.

It is impossible to say for certain when the calculus from the right kidney made its escape into the bladder. It is of course quite possible that it may have escaped detection by the sound, but on the other hand, it is also quite possible that the extra *vis a tergo* exerted by the pressure of the fluid passed into the funnel may have finally dislodged it. It must be remembered that although the stone may have caused complete obstruction when it was sticking (if it did stick) two inches below the kidney, it may have only partially obstructed the flow of urine when it reached a lower level. It has been amply proved (*Medico-Chirurgical Transactions*, vol. lxx, p. 237) that urine and pus and blood may escape pretty freely past a calculus of very considerable size which is lodged in the middle of the ureter.

The patient is now, as far as we know, perfectly well. She had a pain on the right side on three occasions, one of them being rather severe, and on each day passed a little grit. She is kept upon a diet of fish, milk, and farinaceous food with vegetables, and she is taking plenty of distilled water. Care is also being directed to the action of the skin by making her wear flannels and take a warm bath once a week. The urine (on November 2) was neutral, with a specific gravity of 1017.

The facts of this case, which is, we believe, almost unique, speak for themselves, and hardly perhaps call for further comment from us. We append Tables showing the amount and character of the urine, and also a record of the temperature.

Temperature.

Date. 1888.	Hour.	Temp.	Pulse.
Aug. 3	3 p.m.	98·6°	64
	(1st operation 4 p.m.)		
	10 p.m.	98·6	
„ 4	3 a.m.	98·2	
	7 „	99·4	80
	1 p.m.	100·6	88
	7 „	100·2	
	11 „	100·4	
„ 5	3 a.m.	99·4	
	7 „	99·2	
	10 „	—	72
	1 p.m.	100·2	
	7 „	99·8	72
	11 „	99·8	
„ 6	3 a.m.	99·2	
	7 „	98·6	64
	1 p.m.	98·2	
	7 „	99·6	
„ 7	3 a.m.	98·2	
	7 „	98·6	
	11 „	99	62
„ 8	3 „	99	
	7 „	98·6	
	11 „	99·6	60
	7 p.m.	99·6	
„ 9	7 a.m.	99·2	
	0.30 p.m.	—	60
	7 „	99·6	
„ 10	8 a.m.	98·4	70
	7 p.m.	99	
„ 11	10 a.m.	98·2	
	1 p.m.	—	60

Date. 1888.	Hour.	Temp.	Pulse.
Aug. 11	7 p.m.	99°	
„ 12	10 a.m.	98·4	
	7 p.m.	98·8	
„ 13	10 a.m.	98·6	
	1 p.m.	—	74
	7 „	98·2	
„ 14	10 a.m.	98·6	80
	7 p.m.	98·6	
„ 15	10 a.m.	98·4	64
	7 p.m.	98·8	
„ 16	10 a.m.	98·4	80
	7 p.m.	98·6	
„ 17	11 a.m.	—	78
	8 p.m.	98·2	
„ 18	11 a.m.	—	72
	8 p.m.	98	
„ 19	8 „	98·2	
„ 23	10 „	99·6	
Sept. 3	Operation on right kidney 3 p.m.		
	10 „	97·6	
„ 4	10 a.m.	99·4	108
	7 p.m.	100·6	
„ 5	7 a.m.	99·4	
	10 „	—	104
	7 p.m.	100·2	
„ 6	7 a.m.	99·2	
	10 „	—	96
	7 p.m.	99	
„ 7	8 a.m.	98·6	
	10 „	—	96

Urine for 24 hours.

Date. 1888.	Amount.	Sp. gr.	Date. 1888.	Amount.	Sp. gr.
Aug. 7	35 oz.		Sept. 3	62 oz.	1012
„ 8	30			(Second operation.)	
„ 9	26		„ 4	18	1020
„ 10	30		„ 5	35	1016
„ 11	25		„ 6	52	1010
„ 12	26		„ 7	68	1002
„ 13	25		„ 8	42	1004
„ 14	22		„ 9	50	1004
„ 15	28		„ 10	38	1006
„ 16	45		„ 11	45	1004
„ 17	43	1010	„ 12	56	1008
„ 18	60	1010	„ 13	59	1010
„ 19	64	1010	„ 14	66	1010
„ 20	62	1010	„ 15	52	1010
„ 21	65	1010	„ 16	45	1010
„ 22	70	1010	„ 17	47	1010
„ 23	69	1010	„ 18	40	1010
„ 24	42	1012	„ 19	45	1010
„ 25	70	1010	„ 20	53	1004
„ 26	74	1010	„ 21	68	1004
„ 27	75	1010	„ 22	65	1004
„ 28	56	1010	„ 23	58	1008
„ 29	68	1010	„ 24	60	1008
„ 30	60	1010	„ 26	72	1008
„ 31	69	1010	„ 28	64	1008
Sept. 1	64	1010	„ 30	70	1010
„ 2	65	1010	Oct. 2	56	1010

XXIX.—*Three cases of Chronic Enlargement, with distension, of the gastrocnemio-semimembranosus Bursa treated by partial excision.* By A. Quarry Silcock, B.S. *Read February* 22, 1889.

I VENTURE to bring before the Society the question of the treatment by partial excision of the gastrocnemio-semimembranosus bursa when it is in a condition of chronic enlargement with distension, because this method of procedure seems to be but rarely adopted; indeed, I have been told that my practice in so dealing with the derangement is nothing short of "heroic," consequently I am desirous of learning other surgeons' experience in this matter.

The anatomy, disposition, and variations of this bursa I need not discuss; it generally communicates with the knee-joint; it may be more or less completely divided into two sacs, one lying beneath the inner head of the gastrocnemius and the inner condyle of the femur, the other beneath the tendon of the semi-membranosus. Of bursæ situate in the popliteal space it is that which is most commonly enlarged.

Little is known of the causes of simple chronic enlargement with distension of this bursa, independent of disease of the knee-joint. The exciting cause would appear very often to be a strain, perhaps the result of violent walking exercise, whilst gout and rheumatism are considered as predisposing causes. When a bursa has once got into this condition, however, there would seem to be but little tendency on nature's part to effect a cure, unless the neighbouring muscles and joint are kept at absolute rest for a long time; on the contrary, the enlargement increases, the bursal walls grow thicker and thicker, and in the course of time the tumour may become solid. I have seen this bursa enlarged more frequently in women than in men, and oftenest perhaps between the ages of thirty and fifty.

In the first case, that of a woman æt. 28, in which I excised the greater portion of this bursa, a swelling had been noticed at the back of the left knee for nine months. She was unable, so she said, to do her work owing to the pain and weakness of the knee of the affected side. I cut down upon the tumour, emptied it of its contents, which consisted of semi-

translucent jelly of the consistency of very stiff starch, placed a chromicised catgut ligature around the pedicle, and removed the remainder of the sac. The walls of the latter were much thickened and exceedingly tough. The operation was done antiseptically. I placed the ligature around the pedicle both with the object of shutting off from the wound the exposed bursal cavity communicating with that of the knee, and thinking that the thickened bursal walls might bleed. The patient was discharged from the hospital on the fourteenth day after the operation. This bursa was roughly the size of an orange, and did not pass beneath the inner head of the gastrocnemius.

In the second case, that of a woman æt. 58, who was the subject of chronic rheumatism, the swelling in the popliteal space had been present for some years; she could not say when it began. It had become larger latterly, and so painful as to interfere with her work, hence she came to the hospital. The bursa, which was about the size of a hen's egg, was tapped, and its jelly-like contents evacuated, the knee-joint subsequently being fixed in a plaster splint for some weeks. This method of treatment having failed, I cut down upon the bursa antiseptically, freed it from surrounding structures, and turned out the contents, which had reaccumulated. The pedicle extended beneath the inner head of the gastrocnemius muscle; I therefore transfixed it and included it in two ligatures with the same objects in view as I had in the first case. The walls of the sac were very thick and exceedingly tough. The wound was completely healed by the fourteenth day after the operation, but the patient remained in the hospital some days because a slight effusion into the knee-joint followed the operation. This, however, quickly subsided.

Case 3 was a woman æt. 40; she had noticed the tumour but a fortnight, her attention having been directed to it by a cramp-like pain in the knee. I dissected out the sac as completely as possible, did not ligature the pedicle, and treated the wound antiseptically as in former cases. The woman was discharged twenty-seven days after the operation.

None of these cases exhibited any untoward symptoms from first to last; in each case a plaster-of-Paris splint was applied to the knee and worn for about a fortnight after the wound had healed; and I believe they are all permanently cured.

I have been able to find but one other recorded case in which this bursa was partially excised for the cure of enlargement with distension. It is by Mr. Johnson Smith, of the Seamen's Hospital, Greenwich, and as follows:

"Andrew N., ship's steward, æt. 63, was admitted on October 28, 1878. For some months he had suffered slightly from pain and stiffness in the right knee, and five weeks before admission he had noticed for the first time a prominent swelling at the back of the joint. His general health had nearly always been good, and before this he had never suffered from pain or swelling in any of his joints.

"At the time of admission, the right knee was painful and slightly swollen, and the patient experienced some difficulty in walking. A prominent oval tumour occupied the inner half of the popliteal space, but it was more prominent in the lower half. It was very movable from side to side, and felt like a distended cyst with a thin wall. The skin, which seemed to be almost in contact with the superficial surface of the tumour, was pale and healthy. No pulsation could be felt in the tumour. When it was manipulated or compressed the patient complained of nothing more than a sudden sensation of fulness in the knee.

"At first the patient was kept at rest in bed, and iodine liniment was applied to the skin over the tumour. Early in November the swelling was punctured with a very small hollow needle, and a drachm of pale opalescent fluid drawn off into a hypodermic syringe. Before the removal of the needle twenty minims of tincture of iodine were injected into the sac. On November 22 5 oz. of similar fluid were drawn off, and twenty minims of tincture of iodine were again injected. This operation was repeated four times in the course of the month, with no good result. Very soon after each evacuation and injection the tumour regained its former size. No irritation seemed to have set up, and the skin remained free from œdema and congestion.

"On December 4, after the patient had been placed under the influence of ether and the right lower limb had been rendered bloodless through the application of Esmarch's elastic bandage, a long incision was made from above downwards along the inner portion of the popliteal space and over the most prominent portion of the swelling. On dissection of the stretched skin and of the subjacent soft parts, the tumour was exposed. This evidently consisted in an enlarged bursa, and presented a large oval sac containing fluid, and with a very thin and tense wall. The deep surface of the sac was in contact with the superficial surface of the inner head of the gastrocnemius muscle, and was connected with it by very loose and fine connective tissue; at its upper extremity it was con-

tinuous with a long and thick stalk which passed deeply down behind the inner tendon of the gastrocnemius and towards the joint. The lower extremity of the tumour was free and rounded. As the sac was being dissected away from the surface of the muscle it was accidentally ruptured and exit given to about 4 oz. of turbid fluid containing flakes of soft and pale-yellowish material. The collapsed walls were then cut away, together with as much of the pedicle as could be reached without any division of the inner head of the gastrocnemius. The operation was performed under antiseptic conditions, and the wound having been drained by horsehair, was covered by gauze, &c. The limb was then placed on a McIntyre splint.

"No disturbance of general health resulted from this operation. During the first five days after the operation the morning temperature was above 99°, and the evening temperature at or below 100°. During the second week the temperature remained quite normal (98·4° every morning, and between 98·6° and 99·2° in the evening), although on the tenth and eleventh days there was considerable swelling of the knee, evidently due to intra-articular liquid effusion. This swelling was quite painless, and rapidly and completely subsided in the course of the third week. The wound, which was dressed every fourth day, presented a very healthy appearance, but healed slowly, owing to separation of the flaps of skin and consequent formation of a wide granulating surface. At the end of January the patient was allowed to get up and walk. At first he was very lame from stiffness of the right knee, due probably to long confinement of the limb on a splint.

"On March 3, when the man was discharged as cured, he was able to move the right leg to almost the full extent, and the knee-joint was quite free from tenderness and swelling."

That the treatment advocated should be limited to cases of simple chronic enlargement independent of diseases of the knee-joint, is obvious; and before it is adopted the ordinary methods of aspiration, counter-irritation, and splint fixation of the joint may be advantageously employed, perhaps ought to be tried, when time is of little moment to the patient. These, however, often enough fail, and then the choice of procedure seems to lie between injection of iodine, antiseptic drainage, or partial excision. Injection of iodine has proved in many cases, as in Mr. Johnson Smith's, inefficacious; in some suppuration in the joint has followed its use. Troublesome sinuses are occasionally left after drainage of a bursal cavity, the

risks of septic absorption appear to me to be as great as they are in partial excision, and the time required to obtain obliteration of the bursal cavity, and shrinkage of its much thickened walls, is I should imagine longer.

The operation is of the simplest character; the skin incision need not exceed 3 inches in length; often no vessels are divided requiring ligature; and the sac is easily separated from surrounding structures with the director or finger. I need hardly say that it should never be practised unless with the strictest antiseptic precautions.

XXX.—*A case of Chronic Tuberculosis of the Nose, Tonsils, Larynx, Trachea, and main Bronchi (sclerous lupus (?) without external manifestations), producing stenosis of the trachea and bronchi.* By Thomas Whipham, M.D., and Sheridan Delépine, M.B. *Read March* 8, 1889.

GEORGE W., æt. 14, a shop-boy, was admitted into St. George's Hospital under Dr. Whipham on March 15, 1887.

His father died of consumption, but no other member of the family had suffered from this disease, as far as could be ascertained.

The patient had never been strong, but he had never had any serious illness, and neither the previous history nor his present appearance afforded any indication of syphilis. About nine months ago he got wet, and immediately a lump formed on the right side of his throat internally. This "broke" on coughing, but nothing was discharged by the mouth; he had never been well since. He had suffered from cough, but never spat blood. About four or five months ago his voice became weak, and he had been hoarse ever since. He frequently was attacked with paroxysms of dyspnœa of about ten minutes' duration, the attacks occurring chiefly at night. He had slight night sweats, but had not lost flesh. There had been no diarrhœa or vomiting.

On admission the boy was well nourished, his voice weak and husky, and his breathing rather stertorous. There was neither wasting nor night sweats. He had but little cough and not much expectoration. His tongue was clean, his bowels regular as a rule, his pulse 100, not strong, and his respirations 22; his temperature normal. His teeth were very regular and even. Nothing abnormal was found in his lungs, but a loud tracheal stridor accompanied inspiration on both sides. The chest was, if anything, somewhat hyperresonant.

On examining his mouth the uvula was found to be swollen; both tonsils were enlarged, on the left was a patch

of yellow viscid secretion; the anterior pillars of the fauces were congested. On the right tonsil was a deeply excavated ulcer, and another, more superficial, with a grey base, on the posterior pillar of the fauces on the same side. The larynx generally was congested, but there was no swelling or infiltration of any part of it, save on the right ventricular band, from which an irregular projection passed inwards, and beneath it the vocal cord was very red.

The urine was healthy, of specific gravity of 1018.

Special investigation was made as to any syphilitic taint, either hereditary or acquired, but without eliciting the slightest evidence of the disease. The glands, however, along the posterior margins of both sterno-mastoids and some in the submaxillary region were enlarged.

The treatment was biniodide of mercury, and locally benzoin inhalation, with a liberal diet of meat, milk, eggs, and porter.

Three days later (March 18), in addition to the appearances above described in the mouth and larynx, an oval ulcer, with a yellow base, was discovered, occupying the central third of the right vocal cord, and on the following day the right ventricular band was more swollen, and the ulcer on the cord in consequence partly hidden from view. So far as could be made out, the ulcer had lost its oval shape, and its edges had become irregular in outline.

March 23.—No marked alteration had taken place in the larynx since the last note, except that the right ventricular band was rather more swollen. The ulcer on the posterior pillar of the fauces was larger, but apparently not so deep; it was touched with solid nitrate of silver.

Next day the ulcer on the anterior pillar of the fauces was cleaner and presented a more healthy appearance, but the one behind was larger, irregularly oval, and covered with yellowish white secretion. The gargarisma æruginis of the hospital pharmacopœia was ordered for frequent use. In the larynx the swelling of the right ventricular band was greater, and the ulcer on the vocal cord was in consequence more or less hidden from view.

March 28.—A patch of ulceration was seen on the vomer and inferior turbinated bones, and there was much glandular enlargement in the neck and submaxillary regions. The boy was more anæmic; his breathing was stridulous in character.

On March 31 iron and cod-liver oil were ordered, and the gargle repeated.

April 4.—No improvement had taken place in the larynx; on the contrary, the ulcer on the right cord was larger, and both cords were inflamed, otherwise the patient remained in much the same condition. Morphine and ipecacuanha lozenges were prescribed in addition to the other remedies, and subsequently steam and benzoin inhalations.

During the night of April 17 he was attacked by sudden and alarming dyspnœa, which lasted about half an hour, after which he had no sleep.

On the morning of April 18 the boy complained of shortness of breath, and there was an incessant dry cough. The pharynx and tonsils were still red and congested, but he was too ill for laryngoscopic examination. The tongue was coated with a thin white fur, the papillæ were red and enlarged. He complained too of pain along the anterior border of the trapezius muscle, but nothing abnormal was discovered on inspection and palpation.

April 21.—Abduction of the left vocal cord was performed very sluggishly. The ulceration on the right cord had spread. On the right ventricular band there was an ulcer which had the appearance of a piece having been punched out of the mucous membrane. Both arytenoid cartilages were enlarged, the right the larger of the two.

April 25.—The paroxysms of dyspnœa were more frequent, and he complained of a sensation of phlegm in his throat which he was unable to expectorate. Save that expiration was a little prolonged at the apices of both lungs nothing abnormal was detected.

April 28.—7.30 P.M., tracheotomy was performed in consequence of an urgent attack of dyspnœa, and at 11.30 P.M. the patient became cyanosed in consequence of blocking of the tracheotomy tube. He was ordered 4 oz. of port wine, strong beef-tea, milk, and two eggs.

April 29.—He again complained of obstruction in the tube and had a severe paroxysm of dyspnœa, after which he rallied slightly. This was soon succeeded by a second attack, and in spite of all attempts to clear the tube the patient died at 9.20 A.M.

The autopsy was performed fifteen hours after death. The general condition of the body was good; it was moderately well nourished. On the lower part of the right thigh was a scar 1¼ inches in length. The four upper rings of the trachea had been divided in the operation of tracheotomy.

Permission was only granted to examine the wound and

the parts in the neighbourhood. There were a few scattered soft adhesions in the pleura of the left side. Both lungs were congested but crepitant throughout. At the left extreme apex was a slight puckering and some cicatricial tissue, but nothing like tubercles. At the lower part of the left apex was a calcareous nodule, the size of a small pea, surrounded by pigment and contained in the pleura. The bronchial glands on the left side were hard, and one was calcareous. At the base were a few calcareous plates, thin and flat, in the pleura. The right lung showed no puckering, cicatrices, or any trace of tubercle. In the pleura there were numerous flat calcareous plates ranging in size from a pin's head to a pea, and each surrounded by a zone of black pigment; these plates were much more numerous on the right than on the left side.

Larynx.—There was no thickening of the epiglottis or arytenoids. On the right vocal cord was a small papillomatous growth. Between the right vocal cord and the epiglottis was an ulcer involving the vocal cord, ventricular band, and ventricle of the larynx.

Trachea.—Below the fourth ring of the trachea its calibre was much constricted by submucous thickening, chiefly on the right side posteriorly. The mucous membrane was red below the wound and showed one small ulcer. The submucous stenosis, which was excessive in the lower part of the trachea, extended down the right bronchus and into the smaller bronchial tubes of the right side. The left bronchus and its larger subdivisions were much dilated, the primary left bronchus being of twice its normal calibre. The vessels show no thickening. To the back of the first bifurcation of the right bronchus a small black bronchial gland was adherent.

Three specimens were removed for microscopical examination:

1. The first included a portion of the ulcer found above and over the anterior portion of the right vocal cord, in the region of the fossa centralis.

2. The second was a complete thin transverse slice of the trachea at the level of the ninth cartilaginous ring. At that point the lumen of the trachea was extremely reduced, it measured about 7 mm. in its greatest width, and its longest antero-posterior diameter was not more than 5 mm. (after hardening in spirit).

3. The third specimen was taken from the right bronchus,

and consisted of a transverse slice through the inner and posterior half of the bronchus, about half an inch below the bifurcation of the trachea. This section included a small calcified nodule adhering to the bronchus at that level.

1. *Laryngeal Ulcer.*

(*a*) *General description.*—The true vocal cord, the subglottic mucosa and submucosa, the mucosa of the anterior portion of the ventricular opening, the thyro-arytenoideus muscle, are exposed in the sections which are perpendicular to the vocal cord.

Above the true vocal cord the mucosa is much swollen, infiltrated with small cells, and in some places is beginning to ulcerate. Numerous tubercular nodules are found in the deeper parts of this infiltrated membrane.

The *vocal cord* itself is invaded by the granulation tissue.

The *subglottic mucosa* is thickened, its mucous glands are partly destroyed, there is much small-cell infiltration around what remains of some of these glands.

The *epithelial lining* of the larynx below the glottis is much altered and thickened; above it is altered also and partly necrosed, over the vocal cord it is in a state of catarrhal desquamation.

The *thyro-arytenoideus muscle* is in a state of progressive interstitial myositis leading to gradual atrophy.

Some of the deeper vessels are obstructed either through endarteritis or through thrombosis.

Many of the *lymphatic vessels* or spaces are distended with coagulated hyaline or granular lymph. Some of the same material is found also effused just under the epithelium on the surface of the granulation tissue replacing the mucosa.

(*b*) *Detailed description.*—1. *The epithelium* is distinctly stratified squamous above and below the vocal cord. Over the vocal cord the superficial layers of the epithelium have desquamated, so that the deep layers only remain attached to the basement membrane in the form of pyramidal and pyriform cells more or less isolated one from the other. Thus the vocal cord seems to be covered with a modified columnar epithelium (the result of inflammatory changes), whilst above and below the cord the mucous membrane is covered with a stratified squamous epithelium.

In several places above the vocal cord the epithelium has entirely lost its structure and is evidently necrosed; at two or three points it is entirely destroyed, leaving the subjacent infiltrated mucosa exposed.

In some regions the epithelium is separated from the underlying structures by an accumulation of translucent coagulated material, parts of which look very granular and as if composed of micro-organisms when examined with an ordinary power. After staining by Gram's and other methods only a few putrefactive bacteria can be discovered in these masses; a great part of the granular appearance is apparently due to the precipitation of fibrin. A few small hæmorrhages can also be found just under the epithelium.

2 and 3. *Mucosa and submucosa.*—Owing to the changes they have undergone these two layers cannot be distinguished, and must be taken together. Above the vocal cord they are almost entirely replaced by granulation tissue; the superficial parts are chiefly composed of young vessels, mostly running perpendicularly to the surface, and separated by small cells.

The deeper parts are occupied by an almost continuous layer of tubercular nodules with very distinct giant-cells.

The *subglottic mucosa* is much less infiltrated than the ventricular mucosa; it contains, however, a large number of dilated small vessels, and is composed of an unusually transparent form of areolar fibrous tissue. This fibrous tissue has evidently undergone some form of hyaline degeneration. Through this tissue the narrowed ducts of the more or less atrophied mucous glands make their way to the surface. The almost entire absence of mucous glands indicate that a considerable number of these glands must have been destroyed. Those that remain are practically useless. Some are embedded in the modified fibrous tissue above described, and in that case their acini are often reduced to mere specks. Others are surrounded by small cells which permeate the whole of their stroma, and in that case the epithelium of the acini is in one or other of the states indicating parenchymatous inflammation.

The *inferior thyro-arytenoid ligament* is much infiltrated, in fact the edge of the tubercular infiltration coincides with its upper border. Many of its elastic fibres are altered.

The *thyro-arytenoideus* muscle is much affected, but mostly at the level of the vocal cord, where a large number of its fibres is found to be in an advanced state of atrophy, and the

endomysium and perimysium much increased in amount. This is of course seen chiefly on the internal aspect of the muscle.

No bacillus tuberculosis could be found in these sections, although a very large number (fifty at least) of sections were stained for that purpose. It is well to state, however, that the specimen had been hardened in chromic acid.

2. *Trachea.*

(*a*) *General description.*—The lumen is much diminished and has an irregular trapezoidal outline. This is due to the fact that the thickening of the mucosa and submucosa is most marked anteriorly, posteriorly and at the sides, and that there is on the contrary contraction on the intervening regions.

The *epithelium* is stratified, squamous, and irregularly thickened; it is destroyed in a few places.

The *mucosa and submucosa* are much altered, and can hardly be recognised one from the other, being both almost entirely composed of a very hyaline form of connective tissue already described, with patches of lymphoid-looking tissue with or without giant-cells. The superficial layers of the mucosa are replaced by a stratum of granulation tissue, varying much in thickness. Small hæmorrhages, and masses of coagulated lymph, are found here as in the larynx.

The *mucous glands* are entirely destroyed.

The *cartilages* are in a state of chronic inflammation leading to their slow destruction, replacement by fibrous tissue, and dislocation.

The *adventitious layers* of the trachea are in the same state as the submucosa.

The *adipose tissue* is slowly replaced by lymphoid tissue with or without giant-cells, or by the hyaline areolar fibrous tissue described above. The *vessels* are in a state of endarteritis obliterans, and the *nerves* show the changes generally observed in interstitial neuritis.

(*b*) *Detailed description.*—The epithelium, as we have already noticed, is remarkably altered, and has taken all the characters of a stratified squamous epithelium such as is normally found in the mouth. The cells show most distinctly the prickly appearance usually observed in the rete Malpighii of that form of epithelium. [This remarkable instance of metaplasia is the best proof that has fallen under my notice of the homo-

logy between the deep layers of the rete Malpighii and ciliated epithelia—a fact which I have tried to establish a few years ago and to which I intend to refer in some further paper based on this case—S. D.] This epithelium is very thick at the places where the mucous membrane is thinnest, namely at the four angles of the trapezoid lumen above described. There it sends processes into the subjacent mucosa, which forms a number of papilliform projections between these epithelial digitations. Where the mucous membrane is thicker the epithelium is on the contrary thinner. In some regions it is very thin, at places it is raised from the surface of the mucosa by subepithelial effusion of blood or of coagulated lymph. It is even absent over a few small areæ.

In the *mucosa* and *submucosa* we have already noticed a very great alteration of structure, and an entire absence of mucous glands. We have also directed attention to the considerable difference of thickness that exists between the various parts; this thickness varies between one twelfth and one fourth of an inch (after hardening). [It is probable that during life greater differences must have existed, owing to the temporary swellings that must have resulted from the congestion, effusions, or hæmorrhages which can be noticed in various parts of the specimen.]

The structure of these membranes is not entirely the same in the thick and in the thin parts.

In the thick parts there is generally a greater amount of lymphoid or granulation tissue under the epithelium, and also a greater number of patches of cellular infiltration in the deeper parts, than is found in those parts where the membrane is thin. In the regions where the mucosa and submucosa form a thin layer, there is on the contrary a greater amount of rather dense and cicatricial-looking tissue. In the region where the mucosa and submucosa form a thick layer, the parts intervening between the cellular patches have an areolar arrangement; but the intercellular substance, instead of having the appearance of wavy bundles of fine fibrils, has a very transparent and homogeneous look and is evidently in a state of hyaline degeneration. In some places the homogeneous intercellular substance forms a close network with one or two cells only in each mesh, and there the modified tissue looks more as if it had resulted from the transformation of lymphoid tissue, the alteration resulting from hyaline degeneration and swelling of the reticulum.

The changes observable in the *cartilaginous rings*, the

adventitious layers, the *vessels* and the *nerves* have already been alluded to.

Right Bronchus.

This bronchus is much less stenosed than the trachea. The *epithelium* is less altered, but instead of being columnar ciliated as it should be, it belongs in many places to a low cubical type.

The *mucosa* is much congested, but comparatively little infiltrated with small round cells.

The *submucosa* can here be recognised, but is much altered, chiefly in the neighbourhood of the *mucous glands*, which are in a more or less advanced state of parenchymatous and interstitial inflammation and atrophy, complete destruction having occurred in some of them. The *cartilages* are also much altered, chiefly on their inner aspect; and here the multiplication of the cells, their alteration in size and shape, as well as the fibrous transformation of the matrix, leading to the destruction of the cartilage as such (metaplasia), are all very well seen.

The *adventitious layers* are here less altered than in the case of the trachea.

The calcified bronchial gland is a very small one, measuring about ⅛ inch by ¼ inch. It is surrounded by a thick capsule of fibrous tissue arranged in concentric layers.

A number of trabeculæ divide the nodule into a number of small spaces each containing an irregular calcareous mass. In the trabeculæ the lymphoid structure may still be recognised, but it is much altered by chronic inflammatory changes. Many giant cells, as well as a number of pretty large cells of various shapes, are found in this altered tissue, but no distinct tubercular nodule can be discovered either in or about the gland.

Conclusions.

The lesions found in this case are, some of them, so characteristic that it is hardly possible to doubt their tubercular nature, and therefore *primâ facie* the case seems to be one of chronic tubercular affection of the *nose, tonsils, larynx, trachea,* and *bronchi*. It further seems probable that the case is more closely allied to lupus than to any other variety of lesion produced by tuberculosis.

Before coming to a definite conclusion it seems necessary, however, to set aside a certain number of serious objections.

First objection.—There is hardly any well-proved case of tubercular stenosis of the trachea on record.

Rokitansky in one case was unable to say whether the cause of constriction was tuberculosis or syphilis or a mixture of the two diseases.

Lemcke mentions another case in which a patient, having suffered repeatedly from hæmoptysis, became affected with cylindrical stenosis of the larynx, but in this case the man recovered at the age of forty-eight.

Sopel gives a case in which stenosis of the trachea and bronchi was due (he supposes) to the extension of the tubercular process from peribronchial and peritracheal glands to the walls of the air-passages, but in this case carcinoma of the thyroid body was also found post mortem.

Dr. Bateman has just recorded another instance of laryngeal stenosis which he thinks may be tubercular, but in this case there was no distinct history of tuberculosis, and no direct evidence that the process was tubercular.

Second objection.—Dr. Dubar says, basing his assertion on the study of a large number of cases of stenosis of the trachea published up to 1884, that he has not been able to find a single case where tuberculosis has given rise to stenosis (that is, that all cases recorded were supposed to be due to some other cause).

Third objection.—The seat of the lesion is more like what is found generally in syphilis than in tubercular disease. Thus Dubar found in eighteen cases of syphilitic stenosis of the trachea which he had been able to collect, that

In 77 per cent. the lower fourth was affected.
In 11 „ the whole length was affected.
In 6 „ the middle part was affected.
In 6 „ the upper part was affected.

Whilst in 33 per cent. of all these cases the bronchi were also affected.

Fourth objection.—The changes observed in the epithelium have not been noticed before except at the margin of syphilitic ulcers (Ziegler).

Fifth objection.—The excessive formation of cicatricial tissue, and the destruction of pre-existing tissues, are more commonly found in syphilis of the trachea than in any other affection of that organ. The entire destruction of the glands

is more like what is found in cases of leprosy, and in many parts the structure of the mucous membrane agrees remarkably with some of the descriptions given of rhinoscleroma.

Sixth objection.—We have been unable to discover any *Bacillus tuberculosis* in a large number of sections taken from various parts of the organ. [I examined at least fifty preparations, in the staining of which I used various preparations of ordinary fuchsin and of rubin coming from the best sources. At my request Dr. Slater was kind enough to examine also a large number of sections, and was equally unsuccessful.—S. D.]

In presence of all these difficulties it is necessary to discuss the possibility of any other explanation of the case.

Stenosis of the larynx or trachea (we suppose that most processes affecting the mucous membrane of the larynx may also affect that of the trachea by extension) may be due to:

1. *Chronic non-specific inflammation, traumatism* (Gintrac, Andral, Trousseau, Demarquay, Gibb, Wilks, &c.).

2. *Syphilis* (Worthington, Moissenet, Charnal, Boeckel, Payne, Lancereaux, Norton, Thornton, Cornil, Beger, Oudin, Berger, Morell Mackenzie, Jacobson, Dubar, Frankel).

3. *Tuberculosis* (Rokitansky?, Sopel?, Lemcke?, Bateman?).

4. *A mixture of syphilis and tuberculosis* (Rokitansky, Schnitzler, Arnold).

5. *Lupus* (Türck, Tobold, Ziemssen, Grossmann, Lefferts, Morell Mackenzie, Cornil and Ranvier, Babes, Kaposi).

6. *Leprosy* (Morell Mackenzie, Cornil and Ranvier, Babes, Wolff, Gibb, Schroetter, Elsberg).

7. *Rhinoscleroma* (Chiari, Hebra, Billroth, Kaposi, Pellizzari, Cornil and Alvarez.)

8. *Chronic glanders* (Tardieu, Dubar).

(A few authorities only are given in support of these statements, but a great many more could easily be found.)

The presence of distinct granulomata in the diseased tissues allows us at once to put aside *simple inflammatory thickening*. It is equally evident that we have no indication in the case of the existence of *leprosy* or *glanders*.

There remains, therefore, only *syphilis, tuberculosis,* and *rhinoscleroma* to discuss.

We have already pointed out most of the features which give to the lesions a syphilitic appearance. Against this view we have the following facts:

1. There is no history of acquired syphilis, which, according to Rindfleisch, is the disease which generally gives rise to

ulceration and stenosis. There is no history and no indication of hereditary syphilis.

2. There are none of the deep and typical ulcers generally found in these cases at the point of constriction (Charnal, Verneuil, Norton, Payne, Lancereaux, Beger, Dudin, Dubar).

3. The glands are entirely atrophied, whilst, according to Dubar, they should in syphilis be rather enlarged and distended with mucus.

4. Although the presence of a few patches of stratified squamous epithelium at the border of syphilitic ulcers is mentioned in Ziegler's text-book of pathological anatomy, we are not aware that any such extensive alteration of the structure of the epithelial lining as is found in this case has been mentioned in connection with any syphilitic or other affection of the trachea before this.

5. The presence of tubercular nodules in the larynx and trachea could only be accounted for by supposing that tuberculosis and syphilis were concomitant in this case, but the presence of tubercles at various levels, and in the midst of the cicatricial tissue in all the parts of the trachea, but specially in those regions where the tissue changes seem to be progressing, would imply a perfectly parallel extension of the two processes, an hypothesis difficult to accept without absolute proof.

6. In syphilitic cases stenosis is the result of cicatricial contraction following ulceration, while in this case it seems evident that ulceration, where it exists at all, is very superficial and secondary to the processes taking place in the deeper strata.

These objections to the syphilitic hypothesis are certainly of greater importance than those made against the tubercular one.

It has been incidentally mentioned that the structure of the newly-formed tissues of some parts of the trachea reminds one of the structure described by Cornil and Alvarez in connection with rhinoscleroma of other parts.

Chiari has written a paper on stenosis of the trachea due to rhinoscleroma, and the possibility of the extension of the disease to the larynx is mentioned in several works.

There are, however, many points of difference between this case and those of rhinoscleroma which have been recorded.

1. The history of the case, which has nothing in common with that of rhinoscleroma.

2. The situation of the point of greatest constriction.
3. The great changes observed in the epithelium.
4. The destruction of the glands.
5. The presence of very distinct tubercular nodules on the larynx. (It must be said, however, that the arrangement of the lymphoid tissue and of the giant-cells in the trachea is in most places very irregular, and that a well-formed tubercle is rare in the lower part of the trachea.)
6. The very small number of the hyaline globules described so carefully by Cornil and Alvarez.

Without discussing the possibility of a diffuse lymphomatous growth, for which there is no foundation, there remains now to answer the objections which may be raised against tuberculosis, including lupus.

1. Although there is no authentic case of tubercular stenosis of the trachea, there are two very interesting cases of lupus of the larynx, published by Dr. Michael Grossmann, of Vienna, which both bear remarkably upon this case.

In one the patient, a boy, living under unfavorable circumstances, had a swelling in the left submaxillary region when he was seven years of age; suppuration and ulceration took place and the border of the ulcer assumed the appearance of lupus vulgaris, the process extended externally, involving the whole skin of the region. Owing to dyspnœa caused by swelling in the larynx, cauterization with lactic acid was resorted to with good effect. The boy was ten years old in 1887, when the case was published.

In the other case, that of a female patient who had always been hoarse, there was lupus of the conjunctiva, nose, and upper lip, and in addition there was a large heart-shaped defect in the central portion of the epiglottis. The vocal and ventricular bands were covered with a moderate amount of granulation tissue, of which a small mass was also found beneath the anterior commissure of the vocal cords. There was also partial distortion of the uvula. After ten years' observation only slight implication of the hard and soft palate and pharynx had taken place.

Thus in the first case we have a swelling in the submaxillary region, whilst in the case under discussion there was, nine months before admission, a swelling on the right side of the throat. In both cases the swelling burst; only in one case the swelling opened externally, whilst in the other it broke internally. In both cases dyspnœa and other throat

symptoms supervened after a time. Both patients were young, and were of weak constitution.

In the second of Dr. Grossmann's cases we have a distinct account of granulations covering the vocal cords and rendering them uneven, and of the same kind of lesion in the region of the anterior commissure of the vocal bands.

2. The objection based on Dubar's statement has, of course, no more value than objections based on similar grounds. It is not because a lesion has not been identified that it has never existed.

3. The same answer can be given with regard to the unusual seat of the lesion. The case of Rokitansky is interesting in that respect, for it shows that, in some cases, at least pathologists may have been in doubt regarding the nature of certain lesions which may have been recorded as syphilitic because there was no distinct evidence that they were of other origin.

4. As to the changes observed in the epithelium, they seem to result from two causes, (*a*) unusual irritation, (*b*) dryness of the membrane, due to destruction of the mucous glands. A similar stratification of the epithelium is observed in certain acute inflammations of the air-passages, but in those cases, the proliferation of the epithelium taking place rapidly, the cells have no time to undergo the changes leading to the formation of definite squamous and spinous cells. On the other hand, it is well known that mucous membranes exposed to the direct drying influence of the external air often become covered with stratified squamous epithelium. Given any process that will lead to irritation of the epithelium and drying of its surface, or possibly the latter only, we may expect as a result the formation of a stratified squamous epithelium. We may therefore safely assume that the state of the epithelium has nothing specific in this case, and is the simple result of the changes which have taken place in the subjacent strata. Hence it is reasonable to discard entirely this objection. On the other hand, it is well known that great hypertrophy of the rete Malpighii is not an unknown feature in tubercular lupus of the skin.

5. The excessive formation of cicatricial tissue in the trachea can hardly be said to be a serious objection; the formation of fibrous tissue is one of the commonest results of chronic tuberculosis, and that this formation has not been before observed in the trachea to the same extent as in the present case is no insuperable objection. Then we are accustomed to consider at least some forms of lupus as distinctly

tubercular, and in certain cases of lupus the abundant formation of dense fibrous tissue is a very important feature of the process. (See Kaposi and Vidal and Leloir.)

6. Our unsuccessful attempts at staining the *Bacillus tuberculosis* in this case is certainly a strong objection, but it must be remembered that all observers agree on the great difficulty of demonstrating the presence of the bacillus in many cases of lupus. Koch himself has obtained positive results only by staining a very large number of sections in each case which he has studied. Owing to an unfortunate circumstance, the chances of discovering the organism have also been greatly diminished by the specimen having been left for seven days in weak chromic acid, and this, as is well known, renders the staining process unusually difficult.

7. We have also to bear in mind the distinct tubercular history of the patient.

After weighing all these matters carefully, and keeping in mind the absence of pyrexia, it seems evident that, notwithstanding the absence of any very distinct antecedent, the case must be considered as one of chronic tuberculosis of the larynx, trachea, and bronchi, probably a form analogous to sclerous lupus, without any external manifestation.

The diagnosis of lupus is also supported by the absence of distinct active tubercular affection of the lungs, and the very large number of giant-cells in the tubercles of the trachea. (Some of the superficial lesions due to hæmorrhage, exudation, and small-cell infiltration, which seem to result from a recent irritative process, must have been the result of the exacerbation which took place some time before, and ended in the death of the patient.)

Publications referred to, directly or indirectly, in the discussion of the pathology of this case.

No.	Date.	Author.	Reference.	Nature of publication.
1	1834	Andral.....	*Clinique médicale*, iii, p. 183	Inflammatory stenosis.
2	1835	Reynaud.....	*Mém. Acad. de Méd.*, iv, p. 117	Obliteration of bronchi.
3	1843	Worthington	*Med.-Chir. Trans.*, xxv	1 case of syphilitic stenosis.
4	1843	A. Tardieu	*Thèse*, Paris	Chronic glanders, causing stenosis.
5	1844	E. Gintrac	*Bullet. méd. Bordeaux* (June)	Inflammatory stenosis.

No.	Date.	Author.	Reference.	Nature of publication.
6	1858	Moissenet	*Union médicale*, Oct. 28	1 case of syphilitic stenosis.
7	1859	Türck	*Zeitsch. d. Gesellsch. d. Aerzte zu Wien.*, 1859, No. 11	5 cases of lupus of the larynx.
8	1859	Charnal	*Union médicale*, Feb. 19	1 case of syphilitic stenosis.
9	1859	Charnal	*Thèse*, Paris	Remarks on stenosis of trachea following syphilitic ulceration.
10	1859	Huguier	*Bullet. de la Soc. de Chirurgie*, p. 534	Case of syphilitic stenosis cured by treatment.
11	1862	Empis	*Du Cornage*	Roaring, whistling, wheezing as symptoms of stenosis of trachea.
12	1863	Wagner	"Das Syphilom," *Arch. der Heilkunde*, p. 121	Syphilis as a cause of stenosis of trachea.
13	1863	Boeckel	*Soc. de Chir.*, Dec.	1 case of syphilitic stenosis.
14	1864	Baudré	*Thèse*, Paris	Stenosis of the trachea.
15	1864	E. Vidal	*Bullet. et Mém. Soc. Méd. des Hôp.*, p. 139	Cure of a case of syphilitic stenosis of trachea.
16	1865	Mary	*Thèse*, No. 148, Paris	On stenosis of air passages.
17	1866	J. Cyr	*Thèse*, Paris	Pathological anatomy of stenosis of trachea.
18	1866	Türck	*Klinik. d. Krankh. d. Kehlkopfes*	Syphilitic disease of trachea.
19	1867	Gerhardt.....	*Deut. Arch. f. klin. Med.*, ii, iii	Syphilitic disease of trachea.
20	1868	Raynaud (M.).....	*Bull. Soc. Anat.*, p. 349	Cicatricial stenosis of trachea.
21	1869	A. Després	*Soc. Chirurg.*, p. 175	Syphilitic stenosis; cure.
22	1869	Trélat	*Bullet. de l'Acad. de Méd.*, xxxiv, p. 190	Indications and results of tracheotomy in syphilitic lesions of air passages.
23	1869	Payne	L. Dubar (see)	Histology of syphilitic ulcer.
24	1870	Morell Mackenzie	*Pathol. Trans.*	1 case of syphilitic stenosis.
25	1871	Lancereaux.....	*Atlas d'Anat. Path.*	
26	—	—	*Traité Hist. et Prat. de la Syph.*	1 case of syphilitic stenosis.
27	1872	Norton	*Pathol. Trans.*	1 case of syphilitic stenosis.
28	1874	Thornton	*Pathol. Trans.* and *Lancet*, June	1 case of syphilitic stenosis.
29	1875	Hebra and Kaposi	*On Diseases of the Skin*, pp. 89 to 98, chiefly 92 and 95	Anatomy of lupus. Hypertrophic lupus, &c.
30	1875	Cognes.....	*Thèse*, Paris	Roaring in man.
31	1875	J. L. Binet.....	*Thèse*, Paris	Broncho-tracheal roaring and its relation to sudden death.
32	1871	Schrötter	*Jahresbericht der Klin. für Laryngoscopie*	Stenosis of trachea.
33	1875	—	*Laryngolog. Mittheilungen*, p. 102	Stenosis of trachea.

No.	Date.	Author.	Reference.	Nature of publication.
34	1876	Daret	*Arch. gén. de Méd.*, 6e serie, i, pp. 578—715	Stenosis and distortion of trachea.
35	1876	F. Riegel.....	*Berlin. klin. Wochenschr.*, No. 47, p. 673	Symptomatology of stenosis of air passages.
36	1877	Grossmann	*Wien. med. Zeitung*, No. xx	Lupus of the larynx, 1 case.
37	1878	A. Vierling	*Deutsches Arch. für klin. Med.*, p. 326	Syphilis of trachea and bronchi.
38	1878	Lefferts	*Amer. Journ. of Med. Science*, April	1 case of lupus of larynx.
39	1879	Cornil	*Leçons sur la Syphilis*	Histology of cicatricial thickening.
40	1879	Beger	*Deutsches Arch. f. klin. Med.*, xxiii, pp. 608—614	2 cases of syphilitic stenosis.
41	1880	Morell Mackenzie	*Disease of Throat and Nose*, vol. i, p. 396	2 cases of lupus of larynx, nose, lips.
42	1880	Braun	*Centralblatt für Chir.*, No. 51	Cure of stenosis of larynx and trachea by dilatation by means of india-rubber bag.
43	1880 1881	Oudin ..... —	*Soc. Anatomique*, Nov. 5 *Progrès Médical*, p. 343	1 case of syphilitic stenosis.
44	1881	W. Berger	*Schmidt's Jahrb.*, cxcii, 144	Syphilitic stenosis of air passages.
45	1881	J. N. Mackenzie...	*Wien. med. Jahrb.*, p. 75	1 case of syphilitic stenosis.
46	1881	Morell Mackenzie	*Trans. Path. Soc.*, xxii	Syphilitic disease of trachea.
47	1881	Jacobson	*Samml. klin. Vorträge*, herausg. von R. Volkmann, No. 205; *Innere. Med.*, No. 68	Syphilitic stenosis, 1 case.
48	1882	Chiari	*Medicin. Jahrbucher von der k. k. Gesellschaft der Aertze*, Heft 2	Stenosis of larynx and trachea due to rhinoscleroma.
49	1882	Cornil and Ranvier	*Manuel d'Histolog. Pathologique*, ii, pp. 51, 845	Syphilis of trachea. Lupus.
50	1882	Lancereaux.....	*Annales des Maladies de l'Oreille et du Larynx*, p. 117	1 case of syphilitic stenosis.
51	1883	Cornil	*Soc. Anatomique*, p. 319	Rhinoscleroma.
52	1884	L. Dubar.....	*Nouveau Dict. de Méd. et de Chir. Prat.* (Jaccoud), xxxvi	Stenosis of the trachea.
53	1885	Cornil and Alvarez	*Archiv. de Physiologie*, 3e ser., vi, p. 11	Rhinoscleroma.
54	1885	Vidal and Leloir...	*Traité de Pathologie cutanée*	Lupus.
55	1886	Cornil and Babes...	*Les Bacteries*, pp. 650, 738	Rhinoscleroma. Lupus.
56	1886	E. Ziegler	*Special Path. Anat.*, iii, 106	Syphilitic disease of trachea.

No.	Date.	Authors.	Reference.	Nature of publication.
57	1887	E. Frankel	*Deut. med. Woch.*	Peculiar density of cicatricial tissue in stenosis of trachea, 1 case.
58	1887	Sopel	*Annales des Maladies de l'Oreille*	Tubercular stenosis of trachea, 1 case.
59	1887	M. Grossmann ...	*Med. Jahrb. der k. k. Gesell.*	Lupus of the larynx, 2 cases.
60	1887	Schnitzler	*Inter. klin. Rundschau.*	Syphilitic ulcers a good nidus for *Bacillus tuberculosis.*
61	1888	Arnold.....	*Pacif. Med. and Surg. Journ.*	Case of concomitant tuberculosis and syphilis of larynx.
62	1888	Chr. Lemcke	*Berlin. klin. Woch.*, 13, p. 247	1 case of tubercular stenosis (?)
63	1888	Ed. Rindfleisch ...	*Path. Hist.* (French translation), p. 517	Acquired pulmonary syphilis.
64	1889	F. Bateman.....	*Brit. Med. Journ.*, Jan. 5	Obscure case of laryngeal stenosis.
65	1888	Solis Cohen.....	*Annual of Universal Med. Sciences*, iii, 822, Sajous.	Several cases of stenosis, syphilitic and tubercular.
66	1888	J. Bex...	*Rev. de Scien. Méd.*, xxxii, 284	Case of tubercular stenosis (see Lemcke).

The case is submitted to the Society as being of much clinical and pathological interest, and also because we have been unable to find, by reference to the literature of the subject, a similar case.

In its clinical aspect the case was obscure from first to last. The appearance of the ulcers when the boy first came under observation was very much that of syphilis, and even after a most careful inquiry as to the probability or possibility of the disease having been acquired had failed to elicit any evidence of such infection, it was difficult to relinquish the idea that after all the disease was syphilitic. Mercury, however, produced no beneficial effect, and this diagnosis was consequently abandoned. The patient was then treated with steel wine and cod-liver oil under the assumption that it was, in spite of the absence of any signs or symptoms of pulmonary affection, of a tubercular nature.

Even so there were important clinical facts which ranged themselves rather against than in favour of such a diagnosis; that is to say that from March 15 until April 29, while the boy was under treatment, the temperature never exceeded

100° F., and reached that point on one occasion only; there was no cough, no expectoration, no night sweating, no albuminuria, and but little, if any, loss of flesh, and lastly there were no signs of pulmonary disease.

Until lately it was held that laryngeal or tracheal affections of a tubercular nature were always accompanied by disease of the lung, and as recently as 1879 Heinze, in his well-known essay, states definitely that ulceration is never found with tuberculosis of other organs without the lungs being affected, and he bases his statement upon 4486 consecutive autopsies.

Demme, however, in 1883 recorded the case of a child, æt. 4½, who died of tubercular meningitis, and in whom laryngeal ulceration was found with the bacilli of tubercle, the thoracic and abdominal organs being free from tubercular disease. In the interval one or two similar cases have been placed on record, thus establishing the fact that, although of rare occurrence, the condition may and does occasionally exist.

Report of a Committee appointed by the Society to examine the foregoing case.

We have examined the specimen of tubercular lupus of the trachea exhibited by Drs. Whipham and Delépine, and are of opinion that there is undoubted evidence of the tubercular nature of the disease. Further, we are of opinion that there is not sufficient evidence to prove that the conditions exhibited in the specimen were due to any other disease in addition to tuberculosis. We therefore confirm the view which has been expressed and excellently supported by the exhibitors.

Henry T. Butlin.
W. Watson Cheyne.
Percy Kidd.

Thomas Whipham.
Sheridan Delépine.

DESCRIPTION OF PLATE VI.

Drs. Whipham's and Delépine's case of Tubercle of the Larynx and Trachea.

FIG. 1.—General appearance of the larynx, trachea opened from behind.

(*a*) Laryngeal ulcer.
(*b*) Altered central fossa.
(*c*) Laryngotomy wound.
(*d*) Thickened mucous and submucous membranes.
(*e*, *e'*) Transverse section of the trachea, showing the thickened coats and angular lumen.
(*f*) Dilated left bronchus (extra-pulmonary bronchiectasis).
(*g*) Calcified gland attached to right bronchus.

FIG. 2.—Transverse section of the trachea at the level of the ninth cartilaginous ring.

(*a*) Sclerosed and hyaline adventitious coat.
(*b*) Small granuloma (tubercular).
(*c*) Small portion of cartilaginous ring separated from the rest.
(*d*) Fibrous tissue which has replaced part of the cartilaginous ring.
(*e*) Sclerosed and hyaline mucosa and submucosa (notice the great thickness of these membranes and the absence of mucous glands).
(*f*) Thin and contracted portion of these membranes owing to that contraction; the adjacent portion of the cartilaginous ring has become dislocated.
(*g*) Epithelium where it is thin and atrophied.
(*h*) Epithelium where it is thick and sends interpapillary processes into the subjacent mucosa.
(*i*) Sclerosed and atrophied fatty lobules in the adventitia.

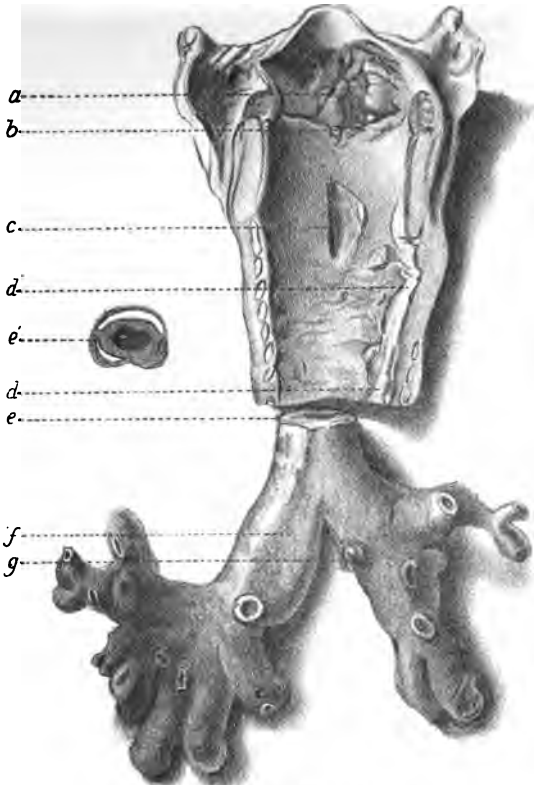


Fig. 1.

Sheridan Delépine, del.

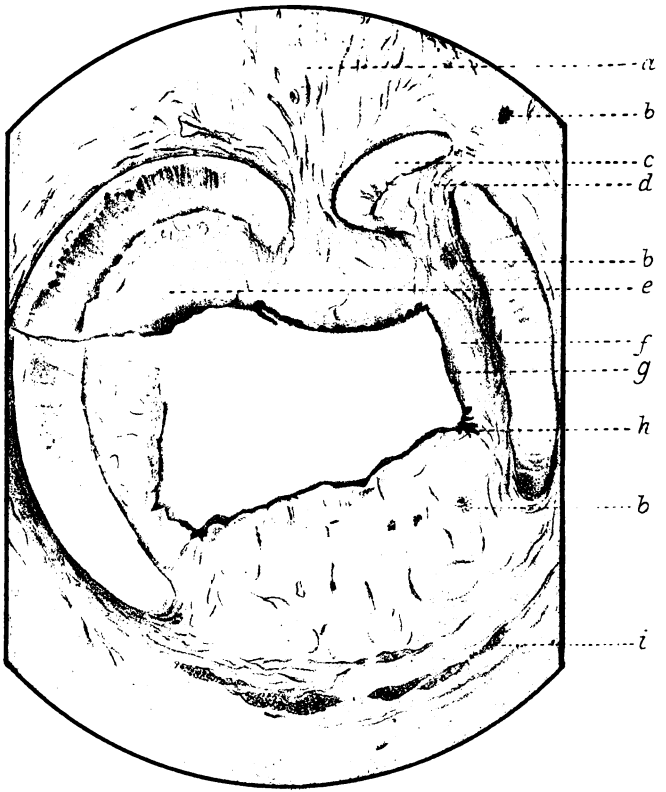


Fig. 2.

Danielsson & Co, lith.

DESCRIPTION OF PLATE VII.

Drs. Whipham's and Delépine's case of Tubercular Disease of the Larynx and Trachea.

FIG. 1.—Right vocal cord (anterior part, near anterior commissure). × 24.

(*a*) Necrosed epithelium, covering
(*b*) Granulation tissue.
(*c*) Ducts of mucus glands.
(*d*) Tubercular nodules.
(*e*) Giant-cells.
(*f*), (*g*) Muscular bundles, atrophied from interstitial myositis.

FIG. 2.—From right bronchus. × 24.

(*a*) Epithelial lining and infiltrated mucosa.
(*b*) Mucus glands, infiltrated and inflamed.
(*c*) Superficial layers of cartilaginous rings with commencing erosion.
(*d*) Deeper layers.
(*e*) Adipose tissue.
(*f*) Sclerosed connective tissue.
(*g*) Thickened capsule of
(*h*) Lymphatic gland, containing calcareous masses.

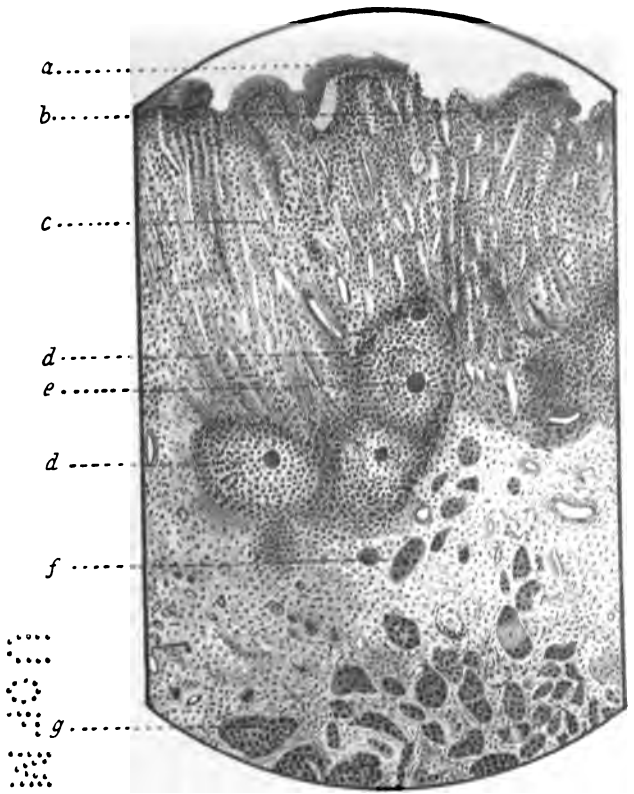


Fig. 1

Sheridan Delepine, del.

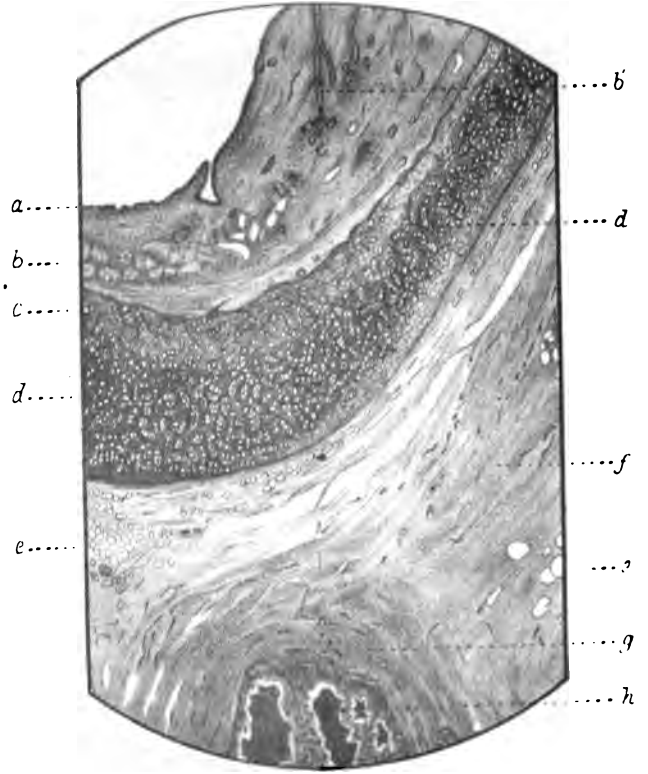


Fig. 2

Danielsson & Co. lith.

XXXI.—*A case of Erectile Tumour of the male breast.*

By J. Bland Sutton. *Read March* 8, 1889.

In April, 1887, a lad, æt. 17, came under my care in the Middlesex Hospital suffering from a tumour which occupied the right mamma. The tumour was discoidal in shape, measured 3½ inches in its greatest diameter, adherent to the skin, and presented a purplish tint, especially in the parts adjacent to the nipple, which was situated in the middle of the tumour. Near the nipple a small spot of ulceration existed from which blood oozed in a small but continuous stream. The boy was very pale, pulse thready, temp. 101°. Scattered on various parts of the trunk, face, and upper limbs were several small pigmented hairy moles.

The history of the case is to the following effect:—At birth a small nævus was noticed immediately above the right nipple; this nævus was connected with a small subcutaneous lump. Ten years ago the breast became swollen and painful; the pain was removed by poultices, the swelling continued to slowly increase in size, but gave rise to no inconvenience until a few days before he applied to the hospital, when it commenced to bleed.

The case was regarded as an erectile tumour on account of its history, purplish colour, and the readiness with which the swelling subsided upon the application of firm pressure, and returned when pressure was removed. I determined to deal with it, notwithstanding its size, in the same manner as I treat nævi generally, that is by excision. Accordingly, I operated the next day, and removed the breast with the tumour by two vertical incisions. Each vessel was picked up as soon as divided; thus much loss of blood was obviated, for the vessels were large and numerous. Nearly sixty ligatures were required in all. As I was obliged to cut very wide of the tumour on account of its close relation to the skin, there was considerable traction on the sutures, but nearly the whole length of this extensive wound healed by first intention, and the boy left the hospital quite well in twenty-three days. I saw him three months after, and the scar was quite sound without any nævoid tendency.

When examined microscopically the tumour presented the

usual characters of a cavernous nævus; the vascular elements were largely mixed with fat, and in the neighbourhood of the nipple glandular tissue was present. About an inch below the main mass of the tumour was a smaller outlying nodule connected with it by nævoid tissue. This nodule contained a cavity in its interior as large as an acorn-cup, filled with serous fluid. The walls of the cyst were composed of nævoid tissue, similar to that composing the corpus spongiosum penis.

Cavernous nævi of the mamma are extremely rare. The specimen is also valuable as an instance of a nævus, small at birth, assuming dangerous proportions later in life. Of this many specimens have now been recorded.

XXXII.—*A case of Molluscum Fibrosum combined with tumours on the nerves.* By J. F. Payne, M.D. *Read March* 8, 1889.

THIS case is an illustration of the connection between fibrous tumours of the skin, or molluscum fibrosum, and fibrous tumours on nerves or neuro-fibroma;—a connection first observed and described by von Recklinghausen.

The patient, Jesse F., æt. 64, was admitted into St. Thomas's Hospital November 13, 1888, under my care. He was of fair physical development and said that in his earlier days he had been possessed of great physical strength. His mental powers were quite up to the average, or at least not at all deficient. He had lived a very laborious life, having been for twenty-seven years in the United States, where he had worked very hard and been exposed to great vicissitudes of weather, but he had never had any serious illness till the preceding year, when he was in Bermondsey Infirmary for six months, suffering, as he said, from pleurisy. Since then his health had been weak. He had been deaf of the left ear for ten years. The skin affection from which he is now suffering began fifteen years ago, with small spots, which were tender, and as they got larger sometimes discharged and bled, till they assumed the appearance now seen.

On admission his state was thus described by Mr. Seddon, my house physician. The skin is generally dark, and shows on the arms and forearms mottled brown pigmentation, interspersed with white patches. The left half of the scrotum also shows dark brown pigmentation. The brown patches are said to have appeared first, and the white spots afterwards formed in the middle of them. (Plate VIII.)

The surface of the body is almost covered with small tumours, some of which hardly project above the surface, some project but are sessile, and some are pedunculated. Their size varies from that of a pin's head to that of a hazel nut, the majority being perhaps about as large as a pea. The largest have somewhat the appearance of a female nipple. Their consistency is soft and mobile, something like adipose tissue, but lumpy, as if with harder masses in the interior. The larger tumours, *i. e.* those exceeding a pea in size, are

[illegible] Her menses [illegible] and [illegible] or [illegible] and [illegible] some smaller ones [illegible] and [illegible] and [illegible].

[illegible] the brain [illegible] at [illegible]. The upper [illegible] and a [illegible]. Less one [illegible] [illegible] with a serious [illegible] the [illegible] [illegible] connected with nerves [illegible] the [illegible] [illegible] and [illegible] nearly [illegible] with superficial branches of the intercostal nerves, [illegible] easily [illegible] from side to side, but less so in the [illegible] of the [illegible]. They were very tender on pressure. Similarly on both forearms, but especially the left, on feeling the course of the radial and ulnar nerves, numerous small lumps, tender on pressure, were felt upon them, which could not have been connected with any other structures than nerves, since they were clearly unconnected with the accompanying [illegible]. Some larger nerve-trunks, running near the surface, such as the median in the upper arm, and the brachial plexus in the axilla, were tender on pressure, though no definite lumpiness could be felt. In the lower limbs some of the nerve-trunks were tender and seemed irregular in size, but no definite lumpiness could be felt, nor were there any lumps on superficial branches of the cranial nerves.

These lumpiness clearly showed implication of various peripheral nerves, and symptoms corresponding to them, though not strongly marked, were still recognisable.

The skin of the hands was hyperæsthetic, especially the palmar surfaces generally, and the dorsal surface of the first phalanges of fingers. Grasp of hand was very weak; the patient often dropped things he was holding, and seemed to hold less firmly when the eyes were shut. He had difficulty in buttoning his clothes. The lower limbs showed no distinct nervous symptoms. The knee-jerk was brisk, there was no ankle clonus and the patient had no difficulty in standing with eyes shut. The pupils were normal.

There was very general muscular weakness, and the patient complained of localised sharp pains in the limbs and various parts of the body.

These symptoms must be regarded as showing a slight implication of the sensory nerves, producing hyperæsthesia,

and a still slighter affection of the motor nerves producing slight symptoms of muscular paresis or weakness, with perhaps ataxia of the upper limbs.

There was no evidence of any implication of the central nervous system, and any such disease as tabes dorsalis or paralytic dementia could be definitely excluded.

The nerve symptoms then closely resembled those of a very slight peripheral neuritis. The slightness of the functional disturbance is quite consistent with the presence of even a considerable number of tumours on the nerves, since experience shows that growths on the outside of nerve-trunks have comparatively little effect in interfering with their functions. This was so in the case which I described in the *Trans. Pathol. Society* in 1887, where a large tumour on the brachial plexus produced sensory symptoms, but no paralysis.

The examination of the thoracic and abdominal organs showed nothing of importance except the existence of some emphysema of the lungs and a little bronchitis. At first a little albumen was found in the urine, but this disappeared. The man had a large right inguinal hernia, easily reducible. The temperature was normal.

It must, however, be insisted upon that the patient was decidedly ill and cachectic, displaying a degree of weakness quite out of proportion to any organic lesion discovered.

While in hospital the largest of the two sebaceous cysts on the head was removed without any bad symptoms. At the same time a small cutaneous tumour was cut out of the skin of the back of the neck. With the patient's assent, as there was no important change in his condition, he was discharged December 27, 1888, after six weeks' residence in hospital, during which time he got weaker rather than stronger.

Remarks.—This case belongs to a group of which instances are rapidly accumulating, in which fibrous tumours of the skin, or molluscum fibrosum, are combined with fibrous tumours of the sheathing or interstitial connective tissue of nerves; that is, neuro-fibroma, sometimes spoken of as neuroma. This case is remarkable from the fact that the tumours appeared late in life instead of in childhood or infancy, as in the majority of cases. The connection of these two classes of tumours was first clearly shown by von Recklinghausen, in what we must now call his classical monograph;* but one case had been previously described by Dr. Atkinson, of Baltimore. When I

* *Die multiplen Fibrome der Haut und ihre Beziehung zu den multiplen Neuromen*, Berlin, 1882.

brought my previous case before the Pathological Society I was only acquainted with three other cases of the combination of fibrous tumours of skin and nerve; but since then others have been described, and the number now on record is probably a dozen or more. In some of these another group of phenomena has been observed, namely, those indicating disturbance of the central nervous system. For further references I beg to refer to my paper above mentioned, *Trans. Path. Soc.*, vol. xxxviii, 1887, plates v and vi.

Histology.—Sections of the small tumour removed during life show the usual structure of these growths. It is composed of fibrous tissue with a superabundance of nuclei, and no other elements. No nerve-fibres were seen either in ordinary sections or in those specially stained with osmic acid (for which I have to thank my friend Mr. Shattock). The fibrous tissue, so far as it has any relation to special structures, appears grouped around the hair-follicles, hair-sheaths and sebaceous glands. No sweat-glands are contained in these sections.

So far as it goes, therefore, this specimen confirms my former conclusion, that nerve-fibres and their sheaths do not necessarily enter into the composition of these tumours of the skin.

Recklinghausen's view of the connection of these two classes of growths is that the fibrous tumours of the skin, or molluscum bodies, are formed on cutaneous nerves, as the other tumours are on deeper nerves. In fact, both are to be described as neuroma. It is true he recognises the fact, which I have established in both my cases, that some of the molluscum tumours contain no nerve-fibres but appear to have been formed around other structures of the skin, such as glands and hair-follicles. This he accounts for by supposing that the first class were originally formed round nerves which have been compressed and destroyed by the fibrous growth and are hence no longer seen. This explanation is evidently one rather speculative than demonstrative. I have ventured to suggest another, based on the view that fibrous tumours arise independently in the corium and in the nerve-sheaths, for an exposition of which I must again refer to my paper in the *Pathological Transactions.*

To illustrate Dr. Payne's Case of Molluscum Fibrosum with Nerve Tumours.

Wrau

XXXIII.—*A case of Quinine Rash: personal experiences.* By I. Burney Yeo, M.D. *Read March* 8, 1889.

ON Sunday, August 14, 1887, being at Folkestone, and after sitting out and talking in the open air, the day being bright but cold and windy, I found in the evening I had taken cold. The next day my cold was severe, in the form of coryza, to which I am prone, with slight sore-throat.

In previous attacks of the same kind I had often experienced great benefit from quinine, which I had been in the habit of taking in 2 or 3-grain doses twice or three times a day, until the cold passed off.

On Monday the 15th I took two such doses; during the following night, while in bed, I noticed some slight heat and irritation of the skin of the lower extremities, and on getting up in the morning I found my legs covered with an erythematous eruption, the character and distribution of which I will describe hereafter.

The eruption remained out for four or five days, then gradually faded and left some faintly pigmented patches, which disappeared completely in two or three weeks.

My impression at the time was that this eruption was a part of the consequences of the chill I had caught on the Sunday at Folkestone, and that it was my duty to clothe my lower extremities more warmly than I had been in the habit of doing, and I at once procured some Jaeger's clothing, which I have worn since.

About two months afterwards, towards the end of October of 1887, I again caught cold, again, as is usual, in my head, and I again took quinine as on the preceding occasion. The night following I had the same feelings of heat and irritation of the surface of my lower limbs, and in the morning I found them covered with an erythematous eruption, having the same characters and distribution as the former rash.

I was somewhat puzzled by this, and I looked back carefully over my diet for the preceding day or two to see if I had taken anything unusual or likely to produce such an eruption. I could find nothing. The rash pursued precisely the same course as before.

The next January (1888) I was in Rome and feeling rather tired and languid one morning I took, immediately after my breakfast, a 3-grain quinine pill. When I dressed for dinner, between 6 and 7 o'clock the same evening, I found my legs again covered with the same kind of rash; and the next morning I had an opportunity of showing it to Dr. Edmonston Charles, who said if he had known nothing as to the peculiar history of the attack he should have unhesitatingly pronounced it a "*rheumatoid erythema.*"

On each occasion the eruption had precisely the same characters and seemed, so far as I could judge, to reappear in precisely the same spots. It was limited exclusively to the lower extremities: *in front* it did not extend above the line of the groins and *behind* the highest patch was on the centre of the right buttock. The rash extended in patches over the whole of the surface of the lower limbs. It varied in colour from bright to deep dusky-red. The patches varied also in size and shape. In some places they were circular or nearly so, and varied in size from that of a shilling to that of a florin. In other places they were of irregular outline and much larger in size. Most of them were a little raised above the surface, and some of the irregular patches considerably so, almost like urticaria. Some of the smaller circular patches were not raised, and these were of a darker red than the others. The eruption was attended with a certain amount of heat and irritation, but the itching was not great.

The rash remained out for three or four days and then slowly faded away, leaving faintly but distinctly pigmented spots, which did not completely disappear for three or four weeks.

Pondering over these curious attacks, and thinking it probable that the quinine I had taken might contain some impurity, I determined to take an experimental dose with quinine obtained from another source. I therefore wrote to Messrs Bell and Company, Oxford Street, and asked them to send me some sulphate of quinine of perfectly reliable purity; and on May 19, at 1.30 P.M., I took 3 grains of this fresh supply, and about 5 P.M. the same afternoon 3 grains more. Between 6 and 7, when I went to my bedroom to dress for dinner, I found my legs covered as before, with a fully-developed erythematous rash, having precisely the same characters and distribution as the eruption I have described, strictly limited, as I have already said, to the lower extremities. During the following night there was a good deal of heat and itching of the

skin, and the rash remained well developed for three or four days, when it gradually faded away as before.

About six or seven weeks after this—in July last—I made another experiment, with the hope that by taking very small doses and gradually increasing them I might re-establish a tolerance of the drug; for I felt it an annoyance not to be able to take a medicine from which I had formerly derived much benefit in the treatment of the attacks of coryza from which I have often suffered.

On this occasion I had some pills carefully prepared from the same specimen of Bell's sulphate of quinine, each containing a quarter of a grain only. I intended to begin with one pill twice a day and gradually increase the dose. I took one pill—*i. e.* a quarter of a grain of sulphate of quinine—immediately after my breakfast, thinking by this means it would become mixed with the food and so be absorbed slowly and added to the blood in small quantities at a time. Between 1 and 2 o'clock of the same day I felt some irritation of the skin of the lower extremities, and on looking I found my legs again covered with the same eruption as before; indeed, this one dose of a quarter of a grain of sulphate of quinine produced as vivid and as diffused a rash as the larger doses. There appeared to me to be even rather more itching and irritation with this last attack than with the former ones; indeed, it was sufficient to be somewhat annoying, and has deterred me from making any more observations on my own person.

I was not aware, until I encountered this unpleasant personal experience, that quinine rashes had been so frequently observed, and reported; but Morrow in his work on *Drug Eruptions* gives a very full account of these rashes; and I noticed, about the same time I began to suspect the true nature of my own rash, that there appeared letters in the medical journals calling attention to somewhat similar occurrences.

Morrow mentions that prior to 1870, with the exception of five cases of erythematous eruption reported by Bouchut, of La Pitié, no cases of quinine rash had been put on record.

This statement is not, however, strictly accurate, for in the *Lancet* of July 8, 1865, there is an account by Mr. Vipan, of Uxbridge, of four cases of *purpuragic eruption*, following directly on the administration of quinine, which came under his own observation. In the *British Medical Journal* of October 9, 1869, there is also a case published by Mr. Garra-

way, of Faversham, in which a single dose of one grain of quinine was quickly followed by an erythematous rash, accompanied by œdema of the face and limbs, and in the same journal on November 13, 1869, Mr. W. B. Hemming reported a case in which two doses of one grain each produced the same symptoms. And in the *British Medical Journal* of January 8, 1870, Dr. Lightfoot published the case of a patient who, half an hour after taking half a grain of citrate of quinine, became "covered from head to foot with a bright papular rash which became in a few minutes diffused and erythematous."

It has been noticed, according to Morrow, that workers in quinine factories are subject to various kinds of rashes, papular, vesicular, and pustular, occurring particularly on the hands, arms, and legs. *Urticaria* has been known to arise from the topical application of an alcoholic solution of quinine, 60 grains to a pint, and a *dermatitis* has been seen to follow the use of a quinine and rum hair tonic! Aitken has observed erythema follow the hypodermic injection of quinine. It would seem that the prevailing type of quinine eruption is erythematous. But maculæ, papules, wheals, vesicles, bullæ, pustules, purpura, &c., have been observed.

I am personally alarmed to find on the authority of Morrow that "the occurrence of one attack seems to confirm and intensify this morbid susceptibility," and he asserts that in a number of cases, as in my own, the patient was previously accustomed to take large doses of quinine with impunity. The occurrence of this curious phenomenon in my own person has suggested to me the following reflections.

1. It is certainly remarkable that a therapeutic agent should suddenly and repeatedly produce a definite and well-marked coarse physical phenomenon in a person who had frequently, and within a short period, taken it before without its having ever given rise to anything of the kind.

2. Still more interesting and noteworthy is the inference fairly deducible from the foregoing, that other similar agents may, and probably do, occasionally produce effects never before caused by them in the same person and not calculated upon in their administration, the knowledge of which is, at present, concealed from us, from the fact that they occur in parts of the body not open to inspection.

3. There is this further inference, that the human body, while apparently presenting all the conditions of health, may in a few months undergo some sudden change, not simply of a temporary nature, which causes some of its tissues to react

quite differently to what they used to, to certain agents introduced into the body.

4. May not what has happened to me and to others in connection with quinine, explain the occasional occurrence of toxic symptoms which have been observed now and then to follow after the administration of some reputed harmless drug, and which we are in the habit of assuring our patients could not have been caused by it?

Suppose that, in my own case, some analogous change had taken place in the gastric, or intestinal, or pulmonary mucous membrane, or in the vessels of some part of the central nervous system, instead of on a portion of the surface of the body; such changes in these organs would, probably, have given rise to symptoms far more difficult of identification.

Again, when we observe a rash produced after eating what we are accustomed to regard as poisonous ingesta, as mackerel, shell-fish, certain fungi, game, &c., may not the determining factor be some subtle change in the individual affected and not always in the food?

Another noteworthy and interesting point is the strictly localised development of this abnormal action of the drug; for while the tissues of all the rest of the body, apparently, escaped irritation, yet certain areas of skin, or certain of the tissues involved in them, confined to the lower limbs, became acutely irritated, and that irritation was accompanied by dilatation of vessels, congestion, infiltration, pigmentation, and all the series of physical changes I have described.

It seemed in my case to be limited to that part of the surface of the body which derives its nerve supply from the branches of the lumbar plexus. As an evidence of the local and selective action of certain drugs, it seems to me a valuable observation.

Finally, there is the instructive reflection that a very small dose of the drug produced as widely diffused and as evident an effect as much larger doses. One quarter of a grain of sulphate of quinine taken immediately after breakfast, and added to the blood slowly and in very minute quantities at a time, produced in three or four hours a widely spread well-marked erythematous eruption over the lower extremities such as I have described and suffered!

XXXIV.—*Four cases of Nephro-lithotomy.* By W. H. A. Jacobson, M.Ch. *Read March* 22, 1889.

I AM desirous of adding these cases of nephro-lithotomy to the series already brought before the Society, and the more so because of the instructiveness and fatal ending of two of the cases; one, a patient æt. 58, with a monster calculus of 473 grains, dying on the ninth day with evidence of kidney failure, the other a lad æt. 15, from whom forty-six calculi had been removed, sinking much more rapidly from shock, both kidneys being here packed with stones, but with symptoms only on the right side. It is to be feared that with an operation like this of nephro-lithotomy fatal cases have not been sufficiently recorded. From a long series of successful cases we are well acquainted with the class of case with which nephro-lithotomy can successfully deal, viz. small single stone in kidneys not much impaired. We want still more knowledge as to what are the cases with which this operation cannot cope.

Case 1. *Calculus* (42 *grs.*) *of lithic acid and oxalate of lime removed from pelvis of right kidney: symptoms of five years' duration: patient æt.* 23: *recovery.*—In May, 1886, I was asked to take charge of this case by Dr. Hale White with a view to nephro-lithotomy. We had recommended this step to the patient in the preceding January, but it had been deferred by him. The history was as follows. Between four and five years ago (1881) pain had first been noticed in the right loin. At this time he attended the West London Hospital for three months, the pain at this time not being constant and not interfering with his work. It gradually increased, causing him to vomit. This vomiting, which was a prominent feature, does not seem to have been due to the passage of any calculi down the ureter, but rather to the gradual stretching of the fibrous tissue of the kidney pelvis by the stone which was forming in it. With regard to sickness and renal calculus, this symptom has been hitherto definitely associated with the nausea and vomiting which accompanies the agony of a descending calculus. It will, I think, be found that with calculi lodged in the kidney

sickness is, when present, an important symptom,* but I am not in a position to say how often it occurs, nor whether it may be looked for in calculi forming in the kidney itself, or only in those situated in the pelvis. In May, 1885, the patient came to Guy's as an out-patient under Dr. Hale White and was admitted under Dr. Taylor. He left in nine weeks with his pain much improved. In October he went to St. Bartholomew's and was seen by Dr. Brunton, who passed him on to Mr. Howard Marsh. He was kept in the hospital for eleven days, and the pain diminishing and there being no hæmaturia, he was told to attend again if the pain returned. We next hear of him going to St. Thomas's Hospital under Dr. Gulliver. He returned to Guy's in January, 1886, and was admitted under Dr. Hale White. When asked to see the patient at this time, I entirely concurred with my colleague in advising nephro-lithotomy, as no treatment had given abiding relief to his pain. At this time it is noted that patient suffers from pain in the right side which is paroxysmal; between the paroxysms patient is quite free; they usually last about three hours. On Christmas Day, 1885, patient had his last, a very severe one and lasting five hours. The pain runs downwards and forwards from near the tip of the twelfth rib to a point an inch or two above the symphysis; it does not pass into the thigh, penis, or testicle. There is no pain in the shoulder. After an attack the urine is noticed to be dark coloured, and patient volunteered the statement that it, at times, contains "stuff like cayenne pepper." When the pain is severe the right testicle is retracted. If while the patient lies in bed the right knee is drawn up, slight pain is felt in the right iliac region, none in the case of the left. The urine is faintly acid, sp. gr. 1018 to 1020, no albumen, blood, or sugar. A few lime-oxalate crystals. The pain all died away, and no movements such as running up and down-stairs, bending and twisting from side to side, sufficed to bring it back. There was no hæmaturia either to the unaided eye, the guaiacum test, or when the urine was examined microscopically. The patient preferred to wait, and it was not till the following May that, convinced that his relief from rest was only temporary, he determined to avail himself of nephro-lithotomy. The operation presented nothing unusual. The ribs having been carefully counted,† an

* Helpful, I mean, in deciding between those difficult cases in which mere lithiasis closely simulates an actual stone.

† Dr. Holl, of Vienna, and Dr. Lange, of New York, have drawn attention to the frequency of rudimentary development of the last rib, and the importance,

incision 4 inches long was made ½ an inch below the last rib. The loin tissues were thin, and save that the muscles were extremely rigid in spite of thorough anæsthesia, the kidney was easily reached after the lumbar fascia had been slit up and the perirenal fat beneath it torn through with two pairs of dissecting forceps. The colon was not seen. The finger introduced to examine the kidney from behind at once detected a firm bean-like mass in the situation of the pelvis. The wound being widely retracted and the lower ribs well pulled up, the pelvis was opened with a steel director and the calculus easily removed with dressing forceps. Very little bleeding attended the operation. A large drainage-tube was passed down to the pelvis,* and the wound carefully united with silk and wire sutures, and dry iodoform-gauze dressings applied. The after-treatment was equally simple and straightforward. For the first few days the dressings required frequent changing from their soakage with urine. The wound was contracted into a sinus at the end of two weeks, when the patient got up, and he left the hospital about five weeks after the operation, with the wound healed. To ensure a healthier life the patient determined, by my advice, to give up his sedentary occupation of a compositor for that of a gardener.

The calculus, half of which is shown (Plate IX, fig. 1, *a* and *b*) consisted of lithic acid and oxalate of lime, weighing 42 grains. Its exterior was covered all over with minute crystalline spicules, though these have been much rubbed off in the polishing of the section. The abundance of these makes the entire absence of hæmaturia still more difficult of explanation, especially as the calculus, when removed from the pelvis, had no protecting coating of mucus.

A possible explanation is, I think, to be found in the rigidity of the parts around. Though the patient was thoroughly anæsthetised, the muscles when cut gave the impression of soft parts frozen by ether. If the psoas and quadratus lum-

therefore, of counting the ribs before operations on the kidney. Dr. Holl found that in quite a considerable percentage the last rib is abnormally short, so that it does not reach as far as the outer border of the sacrolumbalis, or so rudimentary that in some cases it resembles a transverse process; that in these cases the lower limit of the pleura passes from the lower boundary of the last dorsal vertebra towards the lower edge of the eleventh rib. Dr. Lange (*Ann. of Surg.*, vol. i, Oct., 1885, p. 286) quotes a case of Dr. Dumreicher, of Vienna, in which the pleural cavity was accidentally opened during an attempt to remove a pyo-nephrotic calculous kidney. Post mortem it was found that the last rib was rudimentary, that the pleura projected a good deal below the eleventh rib, and that thus when the incision was carried upwards the accident had become unavoidable.

† No attempt was made to close the wound in the pelvis itself.

borum were equally rigid, the kidney must have been so closely pressed around that the absence of hæmaturia is accounted for.

Case 2. *Huge calculus* (473 *grs.*) *of lithic acid and oxalate of lime removed from right kidney : patient æt.* 58 *: symptoms of thirty years' duration : death on the ninth day, with exhaustion. Calculi probably present in the left kidney.*—Mr. J., æt. 58, a solicitor of sedentary habits, was sent to me by Dr. Wilson, of Haverfordwest, in April, 1886. For thirty years he had been liable to pain in the region of the right kidney, the pain occuring in attacks at varying intervals. For the last two and a half years the pain had been especially wearing and had never left him entirely. Two years ago he had a fierce attack of renal colic on the right side which lasted about eight hours, but no stone was known to have been passed on this or any other occasion.* In December, 1885, he had a less severe attack, and to this time, when he was very much tied to his office, and much overworked by a contested election, he dated his chief troubles.

The pain in the right side is referred to a point outside the quadratus lumborum, just below the last rib. The spot is now tender as well. The pain occasionally shoots down the outer side of the right thigh. The right testis is sometimes retracted, but there has been no pain in it. The pain has been liable to be especially fierce at night.† Thus three years ago the patient was in the habit of getting up and walking about his room, his garden, or the streets of Haverfordwest, according to the severity with which his kidney pained him at night. The pain has always been worse after shooting, driving, and long railway journeys.

All life-long, indigestion has been a sore trouble, the patient's sedentary life and habitually rich living having led to a confirmed condition of that hepatic dyspepsia which goes with lithæmia.

* On one occasion the patient had such acute pain at the end of the penis as to make him think he was passing a stone, and to cause him to look for one. None, however, was found.

† I think it is Mr. H. Morris who attributes this night pain in cases of renal calculus to passage of the contents of the colon over the kidney and the stone. This explanation would certainly hold good in Mr. J.'s case, owing to his habitual flatulence, and the superficial position of the stone in the kidney. In other cases where nightly exacerbations of the renal pain take place, with a small stone deeply embedded in the kidney tissue, an acid condition of the urine and a deposition of minute crystals at this time upon the stone may prove to be the explanation.

This showed itself by a feeling of weight and fulness in the region of the liver, frequent nausea, especially at the smell of food, a bitter, foul taste in the mouth; great thirst; a tongue "like a file," and lastly, for many years, habitual constipation and frequent attacks of what the patient called "belly-ache," accompanied by, and I believe largely caused by, flatulence, which amounted at times to a degree of tympanitic distension. All this state of things had been much worse since January, 1886, the patient having lost 12 lbs. in the four succeeding months.

The urine had a sp. gr. of 1018, no albumen or sugar, no pus; oxalate of lime crystals were present in large amount. About two pints were passed daily. The amount of urea excreted daily, oscillated, but was rarely above 390 grains. The patient could hold his water for three hours; he was disturbed two or three times in the night. The prostate was enlarged.

The skin* was dry and inclined to be harsh and rough. He stated that he never perspired.

The patient was closely questioned about the *left* side, and acknowledged that he had pains on this side occasionally. These were, however, treated very lightly; the right side, he insisted, was the cause of all the evil.

Hæmaturia had been a frequent symptom after exercise. Previous treatment having failed, and the patient having heard of nephro-lithotomy, he was very anxious to have the operation performed. I advised him to wait for a month; to leave off his sedentary life, to take plenty of open-air exercise, to live by fixed rule both in the quantity and quality of his diet, and to take abundance of fluid, *e.g.* Lithia and Apollinaris water, daily. As he persisted that nothing short of an operation would give real relief, I sought a consultation with Mr. Howse, who confirmed my advice, but extended the time of waiting to three months, and advised a trial of nitro-hydrochloric acid.

In three weeks Dr. Wilson wrote, "The patient has improved very materially in his appetite, the nausea is also better, and on the whole he seems to be getting on favorably." But while the treatment had had the effect of removing very largely the gouty dyspepsia, the weary aching in the right

* This condition of the skin was not limited to the palms of the hands and the soles of the feet, as has been noticed in patients with oxaluria by some writers, *e.g.* Dr. Fagge. Its presence, general all over the body, taken with the morbid thirst and history of long-continued disturbance of the hepatic function, led to a suspicion of diabetes. Repeated examination of the urine, however, negatived this.

loin persisted, and it is noteworthy that this interfered sadly with his taking driving or walking exercise. At the end of the month the patient came up to town determined to have the operation performed at once, instead of waiting for the stipulated three.

His urine still showed abundance of oxalates; there was no sugar or albumen. The sp. gr. varied from 1015 to 1018.

On the morning of June 3, the day fixed for the operation, the patient passed two small fawn-coloured lithic acid calculi (one of these is shown in Plate IX, fig. 2, *b*), but repudiated utterly that these were the cause of his trouble, and the operation was proceeded with, Mr. Howse being present. The usual incision was made about half an inch below the last (counted) rib. The loin tissues were thin and natural. As soon as the lumbar fascia was slit up, abundant perirenal fat bulged into the wound, and after a good deal of this had been removed and the wound well opened out with retractors, a large hard mass was felt at once in the position of the pelvis and the surrounding kidney tissue. The stone having been exposed by scraping through the overlying kidney structure with the finger nail, was loosened in its bed with the closed blades of a lithotomy forceps, and extracted with them. Very free venous bleeding followed for a moment on the disembedding of the stone, but it quickly yielded to firmly-applied sponge pressure. Mr. Howse, on examining the stone, found that a bit had been detached during its removal. This, an irregular knoblike process, which fitted into an expanded calyx, was found at the bottom of the wound. A large drainage-tube was carried right down into the wound in the kidney itself; the ends only of the wound were sutured, and dry gauze drainage applied. Every antiseptic precaution, including the use of the spray, was taken.

Owing to the size of the stone, and thus the readiness with which it was detected, the operation was of the simplest possible character, and only lasted five and twenty minutes.

The calculus* (Plate IX, fig. 2, *a*) weighed 473 gr., and is therefore one of the largest which have been removed. It occupied the pelvis and body of the kidney, the water-worn end lying towards the ureter and the two processes fitting into the calyces. The kidney seemed in no way altered beyond thin-

* It consists of uric acid, urates, and oxalates, and is thus a good instance of what is well known to occur—the presence of oxalates in the urine of gouty people. Dr. O. Rees believed that lime oxalate is derived from urates, and that when present in the urine it indicates the existence of urates in the blood.

ning of its tissue over the calculus; there was certainly no other perceptible expansion, no cysts, and no pus.

The patient rallied well from the operation. In the evening the usual blood-stained urinous fluid necessitated changing the dressings. The bladder was empty, but the patient had only taken 3 oz. of barley water and a little ice. He was inclined to sleep, without drowsiness.

June 4 (Sunday, first day).—During the twenty-four hours after the operation the patient passed three quarters of a pint of blood-stained urine. Has taken about a pint of barley water and refuses all else, absolutely, until his bowels have acted. He is much disturbed by his usual dyspeptic flatulence.

June 5 (Monday, second day).—The patient has only passed 9 oz. of urine (almost free from blood) during the last twelve hours. He has taken two pints of barley water in the night, and nothing else. A sixth of a grain of morphia has been given twice, *sub cute*. His condition appears very natural and without drowsiness. The dyspepsia and flatulence are less. The wound looks excellently, but there is very little soakage into the dressings. It should be here stated that from the first, after the evening of the operation day, very little urine soaked into the dressings, and that it was only during the first four days that these required changing twice a day. Temp. 99·2°, pulse 104. Has enjoyed a newspaper. Towards evening the passage of flatus returned most troublesomely, and the patient was a little sick once. As no action of the bowels had taken place, Pil. Hydr. gr. v was given at his request.

June 6 (Tuesday, third day).—In the last twelve hours patient has passed 15½ oz. of urine, loaded with oxalates but free from blood. This was passed on ten occasions, which does not appear to be necessary; the patient asks frequently for the bedpan and strains vehemently. Had two long sleeps in the night without any morphia. For the last twelve hours, in fact since the operation, he has taken very little nourishment save barley water, in accordance with his determination, which will not be controlled, to take nothing as long as his bowels do not act daily. Temp. 100°, pulse 108. *Evening.*—During the last twelve hours 29 oz. of urine have been passed in five times. More food has been taken, viz. a pint of milk, a little rice-pudding, and blancmange. The bowels have acted twice with much turbulent passage of flatus, giving great relief.

June 7 (Wednesday, fourth day).—*Morning.*—A restless night with two slight actions of the bowels. Tongue moist,

but furred. Patient took one pint of milk during the night and some bread and milk in the morning. Temp. 100°, pulse 102. Forty-seven ounces of urine have been passed during the last twelve hours in twelve lots; of these four are very markedly loaded with oxalates. In two a little blood is present. *Evening.*—The bowels acted freely this afternoon after Pil. Hydr. gr. v and a Seidlitz powder. The patient at once consented to take food, and has had milk, a pint and a half, chicken broth half a pint, and some blancmange. The wound is closing well. During the day 39 oz. of urine have been passed, about 4 oz. at a time. Temp. 101·6°. For this no cause is evident.

June 8 (Thursday, fifth day).—*Morning.*—The patient has had a fair night. The bowels have again acted well. He is much relieved at this, and is bright and comfortable. The anterior half of the wound is healed, the posterior half is granulating well. Forty-seven ounces of urine have been passed in the last twelve hours, on fifteen separate occasions. Abundance of oxalate of lime crystals present in all the specimens. *Evening.*—This, the fifth day, has been the patient's best. Very little trouble, for the first time, with flatulence. He has taken a pint of milk, a pint of chicken broth, and some jelly. Forty-five ounces of urine have been passed in the twelve hours. In spite of the improved condition, the temperature is again high, 101°, pulse 102.

June 9 (Friday, sixth day).—*Morning.*—A restless night; to-day, for the first time since the night after the operation, there has been a copious flow of thin urinous fluid from the drainage-tube. The bladder still acts very frequently, 54 oz. of urine having been passed, on nineteen separate occasions, during the last twelve hours. It is intensely acid and, as all along, loaded with oxalates. The temperature has fallen, 99°, pulse 110. *Evening.*—The discharge noticed this morning has quite ceased. The patient is reported to have been "a little off his head" this afternoon. The bowels have acted twice. Temp. 99·2°, pulse 112, as throughout good in volume and with beats distinct. Half a pint of milk, the same amount of chicken broth, and some jelly have been taken. Thirty-three ounces of urine have been passed in nine lots.

June 10 (Saturday, seventh day).—*Morning.*—A very indifferent night. The bowels acted repeatedly after some Friedrichshall water which the patient persuaded the nurse to give him over-night instead of waiting till the morning. Thirty-seven ounces of urine have been passed in thirteen lots. *Even-*

ing.—A very restless day with constant passage of flatus. The patient has insisted on having the bedpan upwards of thirty times, the bowels acting twice. All this has weakened him markedly. To-night, when his position was changed, a little subsultus tendinum was noticed. In the last twelve hours, 31 oz. of urine have been passed, showing less evidence of oxalates. Food has been taken well in spite of the restlessness, viz. one pint of milk, half a pint of soup, half a pint of chicken broth, one pint of toast water.

June 11 (Sunday, eighth day).—*Morning.*—A third restless day, followed by marked failure of strength. Very great restlessness throughout the day, constant hallucinations and illusions, and attempts to get out of bed. Up to 5 P.M. he took his food well, having had during the day two pints of milk, half a pint of soup, half a pint of chicken broth, and a little jelly. At 5 P.M., after incessant restlessness, he dozed for two hours, but passed his urine involuntarily. He then became increasingly difficulty to rouse, with twitchings of his limbs, and sank, in gradually deepening coma, on the morning of the ninth day after the operation.

Two questions suggest themselves here. What was the cause of the patient's death? Was the operation justifiable? As to the cause of death I am unable to give an entirely satisfactory answer. As it was desired that the patient should rest amongst his own people in South Wales, it was necessary that arrangements should be immediately made to carry this out, and I was unable to obtain a post-mortem examination.

I cannot doubt that the fatal result was very largely due to failure of the kidneys. Brief and easy as was the operation, the removal of such a calculus must have been a severe shock to the kidneys of a man aged fifty-eight. That these organs were impaired, probably seriously, is, I think, certain from the presence of the huge calculus of thirty years' growth present in one, and of small calculi in the other, for it is certain that the small stones passed on the morning of the operation were from the left kidney. No other stones were detected on the right side after removal of the stone shown to-night, and it is difficult to see how any small ones could have got past the large one. While the patient made very light of any pain on the left side, he allowed, when pressed, that this side too had occasionally troubled him. The small amount of urine secreted during the first three days, and again towards the close, all point to failure of the kidneys.

The subsequent incessant restlessness, due to that dyspepsia

and flatulence which had so sorely tried him for thirty years, now made such head when he was obliged to keep the recumbent position, that, aided by the impaired condition of his kidneys, and by what I must call his wilfulness and obstinacy in his persistent and exhausting use of the bedpan, brought about the fatal failure of strength on the ninth day after the operation.

The wound was almost entirely healed, its progress having been most satisfactory throughout, a fact which is the more remarkable when the constant self-tormenting restlessness of the patient in using the bedpan, and in trying to secure what he considered an essential daily action of the bowels,* are borne in mind.

Whether the operation was justifiable in such a patient at fifty-eight, will no doubt be disputed by some. But most will allow that all other treatment would have been futile to relieve a life of which all the enjoyment† and most of the usefulness had gone. The patient urged these points most strongly, while he was fully aware of the risks which he ran at his age. The result proves that simple as nephro-lithotomy often is, it must remain a very hazardous proceeding with huge renal calculi, even when the removal of the stone is easy, and when the effects of the operation itself have been apparently got over.

Another point which suggests itself with regard to this case is how far the habitual passing of crystals of uric and oxalic acid or oxalates‡ damages the delicate tissue of the kidneys, insidiously and latently, but irreparably. If the passage of uric acid crystals will cause renal hæmaturia and purulent discharge from the urethra, is it unreasonable to suppose that the prolonged, habitual, almost lifelong passage of uric acid and oxalate crystals may be a *bonâ fide* cause of kidney degeneration? We want more information on this point. Can the physicians supply it?

CASE 3. *Multiple calculi, "gravel-pit condition," in both kidneys: symptoms only on left side: patient æt.* 15 *: symptoms*

* There was nothing about the motions, and no pain in defæcation, to suggest anything like ulceration of the rectum.

† "Life is not worth having at the price" were the patient's words on two occasions.

‡ While in the majority of cases oxalate of lime crystals form after the urine has left the bladder, this is not always the case. Dr. Beale has shown that there is strong evidence of its deposition in the tubules of the kidney, in certain cases, in the form of dumb-bell crystals, the salt, therefore, having been formed at the time of the separation of the urine from the blood.

eight years. Forty-six calculi removed from left side: death from shock.—On February 23, 1888, I was asked by Dr. Goodhart to see W. T., æt. 15, who had been admitted into Guy's Hospital for pain in the abdomen and left loin. The family history was good. The patient had always lived in Canning Town; had been always thin and weakly.

For the last seven or eight years he has complained of pain in the abdomen, and during the last six months there has been some difficulty in micturition. The pain in the left side, just below the last rib, has much increased in the last month; it is of a stabbing character, increased on movement, even by turning in bed; it is less when the patient is quiet. During the last month the lad has been giddy and getting weak; the appetite has also fallen off.

He is a very ill-developed youth, giving the impression of an ill-fed child of nine or ten. Has a slight lateral curvature and a "pigeon-breasted" chest.

Urine.—Alkaline; turbid, with a white, ropy, mucoid deposit. Contains pus-cells and abundant triple phosphate crystals. No blood; no sugar. A ring of albumen with HNO_3. Sp. gr. 1008.

Genital organs very ill-developed. No pubic hair. Testes very small, retained at the present time (temporarily?) in the canals. External abdominal rings quite patent.

The pain is referred to the left loin. After a little manipulation, and especially after a deep inspiration, the lower end of the left kidney can be reached. When this is grasped between the tips of the fingers of the two hands there is a peculiar grating sensation transmitted just below the last rib. This, while more delicate apparently than would be met with by rubbing calculi against each other, is quite distinct from that of emphysema. The last rib is intact and free from all evidence of injury. Much pain is experienced when the kidney is pressed between the fingers of the two hands. There is no pain on pressure over the vertebral spines.

February 16.—Complains of headache. Urine still alkaline and containing pus. Bladder explored to-day: no stone. No enlargement of prostate or vesiculæ seminales to be made out by rectal examination. The headache continues. Urine sp. gr. 1010; still alkaline, with a large amount of pus; urea ·8 per cent.

When I saw the patient (February 23) I suggested putting him on an absolutely milk diet for a few days and then exploring the left kidney.

February 25.—Urine acid for the first time. Sp. gr. 1010. Less pus; 1·2 per cent. of urea.

February 26.—Urine more acid. Sp. gr. 1010; 1 per cent. of urea.

February 29.—Sp. gr. 1010. Urea 1·2 per cent.

March 2.—The headache and vomiting which have occasionally troubled the patient during the last fortnight are clearly due to a mixture containing salicylic acid which has been stopped.

March 6.—Urine again alkaline and with ammoniacal odour. Large deposit of pus and triple phosphates. To day, for the first time, a little blood is present. Urea 1·2 per cent. There has been no return of the sickness. No change in the grating.

The liver was explored to-day, chloroform, followed by ether, being given. The ribs being counted, the usual incision was made half an inch below the twelfth. The different muscular layers were thin but very vascular, probably from the frequent handling. As soon as the lumbar fascia was slit up and the perirenal fat torn through, a distinct hard mass was felt, irregular in outline, and clearly, from the way in which it ran up behind the rib, occupying the whole of the kidney. No matting of the perirenal tissues. Puncture with a harelip pin at once came on and between stones. An incision was made in the thinned kidney tissue over these, and the opening enlarged by further lacerating it with the finger, this serving as a plug while it also extracted the stones. These can only be compared to a gravel pit, from the way in which hosts of calculi occupied the dilated calyces, two chief nests being met with at the two extremities of the kidney. The calculi occupying the lower part were turned out easily and completely, but the upper nest, lying as it did high up under the ribs, presented much difficulty. The kidney being partly drawn downwards into the wound* and the first opening plugged with a small sponge, a second opening was made over the upper group with the finger, as the calculi were thus more directly reached.

As long as the finger plugged the openings but little blood was lost, but considerable hæmorrhage took place during the numerous occasions on which the finger, as it brought out the stones, left the opening, though this was at once plugged by the other index.

The chief difficulty, in addition to the very large number

* Note was kept of the state of the pulse most carefully at this time.

of stones, was the mobility of the kidney, though it was well pressed up from the front. This mobility was extreme, and was, perhaps, largely due to the almost entire absence of surrounding and fixing fat.* As soon as it was found that the kidney was so very largely packed with calculi the question of nephrectomy arose, and I must confess to having been, myself, in favour of this step, from my belief that the kidney was almost useless, that the stones were so numerous and so embedded that the shock entailed by the necessarily prolonged operation would be more dangerous in so ill-developed a subject than nephrectomy. One or two other points seemed to favour this step, viz. the absence of any adhesions, the mobility of the kidney, and its size, the enlargement of the organ not being sufficient to prevent its coming out through a free lumbar incision. Dr. Goodhart was, however, strongly against this step owing to the small percentage of urea, which had never exceeded 1·2 per cent. The sequel proved his wisdom.

Thus I continued to complete the removal of the calculi from their nest in the upper part of the kidney. While this was being done, the pulse began to fail ominously, and as the patient had now been under the influence of ether for upwards of forty minutes, and as I felt that any further prolongation of the operation would be fatal, and, as regards the complete clearing out of calculi, futile as well, I plugged the wounds in the kidney with long strips of sal-alembroth gauze around a large drainage-tube passed right down to the kidney, closed the extremities only of the wound with two silk sutures, and applied dry gauze dressings firmly. The condition of the patient when replaced in bed was one of collapse; as he gradually became sensible, restlessness, tossing of the arms, cold clammy hands, and an almost imperceptible pulse were marked features.

Every step was taken to meet the collapse, and two hours later the pulse had improved decidedly. This improvement was, however, only temporary; the pulse again ran down, the face again became cold and the breathing gasping, and death took place four hours after the operation.

The post-mortem examination showed no clots at the site of the wound, and no injury to the peritoneum. A few calculi still remained in the upper part of the left kidney. The right kidney also contained many stones (Plate IX, fig. 3, *a* and *b*). Its tissue was decidedly bad.

* In another case I should, on finding so much mobility, meet it by first fixing the kidney with one or two chromic gut sutures to the wound.

The forty-six calculi, which I removed, are shown in Plate X. They consist chiefly of lithates and phosphates, with some oxalates.

CASE 4.—*Large oxalate calculus removed from pelvis of right kidney: weight 78 grains: patient æt. 41: lifelong symptoms: rapid and complete recovery.*—A. S., æt. 41, a painter, has spent his life in Lewisham; came under my* care in August, 1888, at Guy's Hospital. Ever since he can remember he has noticed a sharp shooting pain in the region of the right kidney, travelling down into the groin, and occasionally into the testis. The pain has been of varying intensity, being increased intermittently; occasionally it has been sickening. For a long time past coughing or any movement has aggravated it. During the attacks of increased pain the loin has been tender, and micturition often frequent. Hæmorrhage does not seem to have been a prominent symptom, but blood was distinctly visible in the urine about a week ago. The urine has often contained a sediment like fine dust. It is now highly acid, sp. gr. 1020. Contains pus-cells and crystals of oxalate of lime.

I operated August 15. The usual incision was made below the twelfth (counted) rib. Perirenal fat well marked, but without matting or evidence of inflammation. A craggy irregular calculus was felt in the pelvis. As the kidney was movable I requested the house surgeon to keep a careful watch on the pulse while I raised the lower end of the kidney almost out of the wound, and thus brought the pelvis into sight. It was as well this was done, as two large veins crossed the pelvis just over the calculus. The pelvis was snipped through between these with blunt-pointed scissors, and the stone turned out with a blunt dissector. It somewhat resembles black coral, weighs 78 gr., is of the size of a marble, but covered with a number of irregular foliaceous processes.

The intersection of these with numerous channels probably accounts for the escape of urine from the kidney, and thus for all absence of any expansion of that organ, or of any alkaline changes or phosphatic deposit (Plate IX, fig. 4).

As the lower part of the kidney had been a good deal disturbed, a stout chromic gut stitch was inserted deeply into the kidney tissue, and tied to the lumbar fascia and cut short. A large drainage-tube having been passed down to

* I operated on this case during the illness of Mr. Durham. It afterwards transpired that the case had been sent to another colleague, Mr. Lucas.

the pelvis the wound was carefully dried out, dusted with iodoform, and closed around the tube with five silver and three silk sutures.

The further account is not of great interest. The next day, August 16, 14 oz. of urine had been passed in the eleven hours after the operation. Some of the specimens were loaded with blood, others free from any hæmorrhage, this being probably due to obstruction of the pelvis by clots. A good deal of discomfort, due to flatulence, has been complained of.

August 17.—Temp. 102°. Urine 13 oz. in last twelve hours.

August 22.—Third dressing. Drainage-tube removed and shortened by one-third. Next to no discharge from the wound; this is united everywhere save around the tube. No trace of pus. General condition most satisfactory.

August 23.—A free flow of urinous fluid has taken place during the last few hours from the site of the drainage-tube. Patient has passed 38 oz. (sp. gr. 1015—1018) in the last twenty-four hours, in addition to what has soaked away in the dressings.

August 29.—The flow of urinous fluid from the wound continues, causing a slight excoriation of the skin.

September 6.—The wound is so superficial that the drainage-tube was left out.

September 17.—Patient left the hospital with the wound almost completely healed. Sound healing took place by the end of the month, or within six weeks of the operation.

The points which are especially suggested by these four cases are, I think, the following:

1. The value of vomiting as a symptom of a calculus forming in the kidney or its pelvis, as well as a manifestation of a descending stone.

2. The absence of hæmaturia in certain cases of calculi forming in the renal pelvis, where the stone has a rough exterior, and is not protected by mucus.

3. The explanation of the nocturnal increase in the pains of a renal calculus observed in certain cases.

4. The probably harmful effect of the passage of oxalates and lithates, habitual and prolonged for many years (as in my second case) upon the minute anatomy of the kidneys. Should not this be an important factor to be taken into consideration before nephro-lithotomy in a similar patient?

5. In spite of the shock in so weakly a patient it would

DESCRIPTION OF PLATE IX.

To illustrate Mr. Jacobson's cases of Nephrolithotomy,

Fig. 1.—Calculus removed from Case No. 1.

(*a*) Shows the outer surface covered with spicular crystals, in spite of which there was no hæmaturia throughout.

(*b*) The same, on section.

Fig. 2.—(*a*) Calculus removed from Case No. 2.

(*b*) One of the small calculi passed on the morning of the operation, and probably coming from the opposite kidney.

Fig. 3.—The two kidneys of the patient in Case No. 3.

(*a*) Shows the kidney operated on. The lower two thirds are almost completely cleared of calculi (the forty-six removed are shown in Plate X), but a few are still left in the upper part.

(*b*) Shows the right kidney full of calculi, of which there was no evidence during life.

Fig. 4.—The calculus removed from Case No. 4.

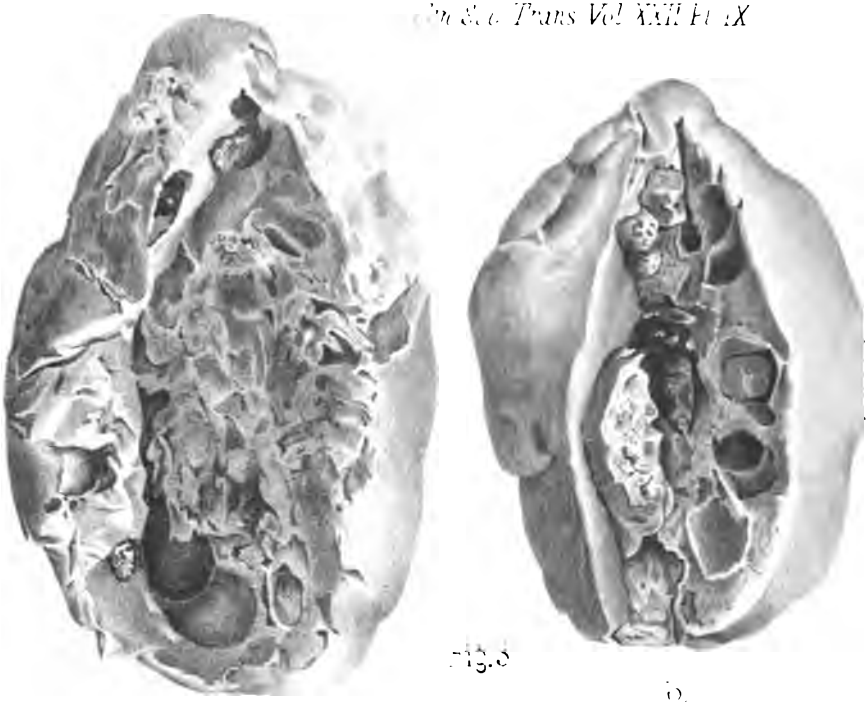


Fig. 3

a b

Fig 2

a b

a Fig 1. b

Fig. 4.

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DESCRIPTION OF PLATE X.

To illustrate Mr. Jacobson's cases of Nephrolithotomy.

The forty-six calculi removed from the left kidney of Case No. 3.

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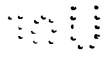

be wiser in such a case as my third, where calculi are certainly present on one side, and where the amount of the urea is persistently low, to clear up the condition of the other kidney by exploration of the abdomen if puncture of the opposite loin fails to give any information.

6. The possible value of a preliminary nephrorraphy when a prolonged nephro-lithotomy has to be performed on a very mobile kidney.

7. The risks of suturing the wound in the renal pelvis after extraction of a calculus probably far outweigh any possible advantages.

The above step has been taken once or twice: as the operation of nephro-lithotomy is now far from uncommon, I would point out that one case has proved how full of danger it is.

Mr. Macnamara (*Westminster Hosp. Rep.*, vol. i, p. 161) after removal of a calculus carefully closed the opening in the left pelvis with catgut sutures. December 8, or five days later, the wound had almost entirely healed, and the drainage-tube was taken away. December 12, the temperature ran up, with a rigor, rapid breathing, and pain in the left chest. On removing the dressings purulent urinous fluid escaped from a small opening in the lower part of the original wound. Pus formed in the left pleura and required aspirating. The original wound was then freely opened up, and a large drainage-tube introduced. From that date the condition improved. For some time the urine escaped freely from the wound, but this had ceased before the patient left.

XXXV.—*Case of Hydronephrosis caused by renal calculi: nephro-lithotomy: ulceration into a branch of the right renal artery by an undetected spiked calculus, with fatal hæmorrhage on the seventh day after operation: necropsy.*

By W. E. Steavenson, M.D.Cantab., and A. C. Butler-Smythe. *Read March* 22, 1889.

THIS case is reported to show the difficulties which may surround the diagnosis of a renal calculus ultimately leading to hydronephrosis, and also some of the difficulties and dangers which may accompany and follow the removal of the calculus by operation. Apart from the question of diagnosis and the difficulty of finding the calculus that was removed, even after its presence had been detected by the exploring needle, the fact that a second calculus remained undetected lends an additional interest to the case, inasmuch as it led to the fatal result. The cause of death, also, is in our opinion, almost, if not quite, unique.

P. B., æt. 24, a short, thin, anæmic-looking woman, was admitted as an in-patient at the Grosvenor Hospital for Women and Children in October, 1887, suffering from severe pain in her back and right hip. She gave the following history: "Parents are alive and well. Brothers and sisters grown up and healthy. She herself has never enjoyed good health. First menstruated at the age of twelve years, was regular afterwards and had no pain with the periods up to her twenty-first year, after which time she suffered from pain before the flow appeared. The loss was never excessive and the flow usually lasted four days. When a child she fell over a footstool and hurt her right side. Some years afterwards she complained of dull pains in her back and right side. On one occasion only, about three years ago, she noticed that her water became red and afterwards blackish. Before and during that time she suffered from severe colicky pains in her right side, loin, hip, and thigh. Since that time her water has always been clear. About twelve months ago she had pain in the sole of her right foot beneath the instep, and two months later she suffered from pains in her right hip, thigh, knee, and, at times, on the inner side of the right ankle. She attributed these pains to having lived in a base-

ment with a stone floor." Previous to her appearance at the Grosvenor Hospital she had been in-patient at several institutions, including two of the larger metropolitan hospitals, where (according to her own statement) she was treated for sciatica and hip disease.

Soon after admission into the Grosvenor Hospital she complained of severe pains in the right iliac fossa, hip, back of thigh, and in the right knee. The pain in the right iliac fossa was of a burning character, and the patient stated that it became worse at the menstrual periods. Pressure on the right patella caused so much pain that she could not kneel. There had been no trouble in passing water, neither had there been nausea or vomiting. The bowels were costive.

Physical examination.—No swelling was noticeable at sight or could be felt, but pressure over the right side of the abdomen produced a sickening sensation, and there was great tenderness in the right loin. *Per vaginam* the uterus was found to be normal in size and position and freely movable. There was no ovarian enlargement and nothing abnormal could be detected, though the patient experienced some pain and tenderness when the exploring finger was pressed high up to the right of the uterus. Percussion yielded a resonant note over the whole abdomen.

About a fortnight later a swelling began to be manifest on the right side of the abdomen, and the pain in the side became worse. The swelling was quite independent of the uterus and seemed to enlarge from behind forwards. Pressure on the swelling caused a feeling of nausea, and the tumour could be slightly moved towards the middle line. Fluctuation could just be detected. There was resonance above the swelling, between it and the border of the liver, and there was no tenderness or enlargement of that organ. Before the appearance of the swelling the patient had been treated for sciatica, but it was now thought that the tumour was renal and we decided to aspirate it.

On puncturing the swelling several ounces of clear urinous-smelling fluid were withdrawn, and the tumour partly collapsed. It was thought at the time that a stone had been struck, but on moving the cannula about, the stone was not again felt. The fluid withdrawn was clear and straw coloured, acid, sp. gr. 1010, and contained one sixth of albumen. No change occurred in the urine passed *per urethram* after the aspirating, and in a few days the swelling and pain gradually returned. Some weeks later the tumour was again aspirated,

and several ounces of bloody urinous-smelling fluid were withdrawn. The cannula was moved about, but no stone could be detected. The next urine passed per urethram was mixed with blood, and the day following the urine contained pus and blood. The temperature rose to 102·2°, pulse 120, tongue foul, skin dry and hot. In about a week the symptoms improved and the urine became clear. The swelling, however, reappeared and rapidly increased in size. It now occupied the right lumbar and iliac regions, and reached to the middle line of the abdomen. Bimanual examination revealed an elongated and rather globular swelling, freely movable, dull on percussion, except where the colon lay in front of it, and painful on pressure. Fluctuation could be felt in front of the tumour and in the right loin. *Per vaginam* the lower part of the swelling could be touched, but it was not connected with the uterus, which was displaced to the left side. There was no difficulty in passing urine or motions. The patient was easy when lying on her back, but when she turned over on her left side the tumour fell over and caused a severe dragging pain. When she turned round on to her right side the tumour dropped back and brought on a gnawing sickening pain. When she sat up, stood, or walked, the dragging pain became unbearable, so she was compelled to keep to her bed and to lie on her back. She stated that the swelling became larger and more painful at each monthly period.

The patient and her parents having given their consent to further operative treatment, it was decided to cut down upon and explore the right kidney, and if a stone were found and removed to drain, but if there was extensive disease of the kidney to remove that organ.

On July 1 the patient was put under ether by Dr. Addinsell. The kidney was exposed by the usual loin incision, and in puncturing it the needle struck what proved to be a nest of closely packed grain stones in a dilated cavity. These were removed with a scoop and the kidney further explored by needle and sound. A large stone was struck, but much difficulty was experienced in catching hold of this and extricating it, as it was tightly fixed in the pelvis and ureter (Fig. 18, p. 218). Several other small grain stones were removed by the scoop and the organ was well explored by finger and sound, but nothing else could be detected by the operator or his colleague, Mr. R. W. Parker, who was assisting at the operation. The kidney was then washed out with boracic solution and a

drainage-tube inserted. No pus was observed, but a fair amount of blood was lost at the operation. The stones together weighed over a quarter of an ounce.

The patient rallied well after the operation and the temperature fell to 100·4°; the pulse, however, remained about 120. Urine passed freely through the wound, and several ounces of blood-stained urine were drawn off from the bladder during the first twelve hours. The following day she expressed herself as "feeling quite comfortable;" urine clearing and plentiful. On the third day the temperature rose to 103·4°, but fell to 102° the day following, though the pulse remained at 120. The patient suffered no pain and seemed very contented. The urine was plentiful and quite clear; no pus or blood, sp. gr. 1020, acid, slightly albuminous.

Two days afterwards the temperature again rose to 103°, but she had no pain or discomfort beyond a slight headache. She passed 29 oz. of urine in the twenty-four hours, and the dressings were well soaked through. Twenty grains of antipyrin were given, which reduced the temperature to 100°. Pulse still 120 and small.

Next day the patient expressed herself "free from headache and feeling quite well." Tongue clean and moist, skin soft, and plenty of urine passing. Temperature down, and pulse less frequent.

With the exception of a most variable temperature, the patient seemed to have got on very well, and was quite comfortable up to 10.15 P.M. on July 7th, when she asked for the bed-slipper, as she suddenly felt a desire to pass her water. She passed several ounces of bright blood, which came with a gush through the urethra without any pain whatever, but she felt cold, and had a slight shiver hardly amounting to a rigor. Her temperature was immediately taken and was found to be 104·6°. The dressings were stained with blood, but only blood-tinged urine came through the wound in the loin. Ice-bags were placed over the kidney and against the loin, and gallic acid and ergot in full doses were administered frequently. Half a pint of bright bloody urine was drawn off from the bladder by the catheter, and the urine passing through the wound was still bright coloured. Two hours later some ounces of blood-tinged urine were drawn off and the patient seemed better, but faint. Pulse 120 and weak; temperature 102°. Later on the patient had quite rallied and there were no further signs of bleeding.

At 7 A.M. on July 8, 8 oz. of bloody urine were drawn off

from the bladder. The patient had had a good rest and said she felt much better and quite comfortable. No headache or pain whatever; pulse stronger, temperature 100·8°.

At 10 minutes past 8, without the slightest warning, she was seized with a violent rigor and the temperature rose to 104°. The rigor lasted half an hour and was followed by profuse sweating. About half a pint of bright bloody urine was drawn off from the bladder, but little or none came through the wound. The pulse could hardly be felt, the respirations were forty in the minute. She was very pale and the extremities were cold and the finger-nails white, lips pale, features pinched, skin clammy. She was just sensible, and complained of a feeling of suffocation and threw her arms about. She never rallied, but the breathing got more and more difficult, and she became unconscious and died soon afterwards.

Soon after being attacked with the rigor, a long cast from the ureter was passed *per urethram*, together with several ounces of thick bloody urine. Immediately before death the renal swelling was distinctly perceptible to touch and sight.

Autopsy.—On opening the abdomen, a swelling the size of a small football was seen forcing its way up between the intestines. This proved to be the right kidney, immensely dilated and filled with blood-clot and bloody urine. There was no blood or fluid in the abdominal cavity, but the perirenal tissues were blood-stained. The intestines were

FIG. 18.

FIG. 19.

healthy, and there were no signs of peritonitis. The loin-wound looked healthy. The right kidney and ureter, together with the bladder, were removed. The opening in the kidney made at the time of the operation was small and blocked up by blood-clot. Much of the kidney substance was destroyed, and grain stones were found in many of the cavities.

Embedded in the kidney substance, close to the pelvis, was found a round spiked calculus which had ulcerated into a branch of the renal artery just at its entry into the kidney, and had given rise to profuse bleeding into that dilated organ (Fig. 19). The pelvis of the kidney and the ureter were much distended and filled with blood-clot. The bladder was nearly filled with clot and thick bloody urine, and in its cavity was found one small grain stone. The left kidney and ureter were quite healthy. The calculi consist chiefly of oxalate of lime, and we have to thank Dr. W. H. Bailey for his kindness in reporting thereon.

Remarks.—It may be noted that the first attack of hæmorrhage was apparently controlled by the treatment adopted, the second and fatal hæmorrhage occurring some seven hours later. Had the first hæmorrhage not been stopped, nephrectomy would have been performed, but the patient rallied so well and expressed herself as being so comfortable during the night that it was hoped no further bleeding would occur. On seeing the patient after the recurrence of the hæmorrhage it was at once evident that no operation would have been of any use. Then as to the calculus found post mortem. It was not detected at the operation even after careful manipulation and sounding by both the operator and his colleague, and it was not until the organ had been removed and cut open that its presence was even suspected.

XXXVI.—*A case of Cerebral Hæmorrhage: trephining: recovery.* By Herbert W. Allingham. *Read April 12, 1889.*

As cerebral surgery is now occupying the minds of the profession to a more considerable extent than heretofore, the details of the following case, which has recently been under my care at the Great Northern Hospital, may be of interest. Many cases of trephining for ruptured meningeal artery have ended in a cure, but the interest of this case lies in that the bleeding was from a laceration of the frontal lobes, and the hæmorrhage therefore *subdural* and not between the bone and dura mater, as has been the case in most of the reported successes of trephining for hæmorrhage.

Nathaniel C., æt. 40, was admitted into the Great Northern Hospital on December 7, 1888. He had fallen in the act of getting off a tramcar, but did not himself remember the occurrence. He was found to be somewhat concussed. He complained of pain in the left shoulder, but nothing objective was to be seen there. There were no external signs of injury to the head. After a draught of bromide and chloral he slept well.

December 8.—In the morning he was rather drowsy, and complained of dryness of the mouth and aching in the right side of the head. The tongue was furred. The pupils were equal and reacted to the light.

December 11.—For the last three days the patient had remained in the same drowsy state, becoming irritable when disturbed or being examined. At times he was rather light-headed. The amount of sleep he took was very great. The highest temperature heretofore reached was 100·6°, which was on December 9.

No paralysis had manifested itself. The pupils remained equal and reacted to the light, nor were there any signs of fracture of the base of the skull. The tongue was dry and the mouth clammy. There had been no vomiting. The urine was acid, of sp. gr. 1020, and was free from albumen or sugar. The patient was ordered a calomel purge and an ice-bag to the head. The highest temperature that day was 100·4°.

December 13.—The previous night the patient's breathing was observed to be rather laboured and stertorous; he became more drowsy and apathetic, failing to notice things around him. During the early part of the night he slept well, but at 6 A.M. he was seized with convulsions. These were of the following nature: They began in the muscles of the left side of the face, the mouth being drawn upwards, and the eyelids moved in clonic spasm. The right eyelids were moved only very slightly, and then not till towards the end of the fit. The muscles of the neck were next affected, the chin being drawn towards the right shoulder. Subsequently the left arm and leg passed into a state of clonic spasm. The eyes were not noticed to deviate to either side. The urine was twice passed unconsciously, but during the period of the seizures. The pupils reacted slightly to the action of light, the right one appearing to be a little larger than the left. The corneal reflex was not quite abolished. The stertorous nature of the breathing continued to increase. The patient did not bite his tongue, nor was there any action of the bowels. After the first convulsion the fits recurred at frequent intervals, those of a slight nature affecting only the muscles of the face and neck or the face alone. In the afternoon chloroform was given, as I determined to trephine him on the right side over the fissure of Rolando.

A curved incision was made, commencing from the external angular process, extending to the mastoid process. A large flap was reflected downwards. The crown of the trephine was removed 2½ inches behind and 1½ inches above the external angle of the orbit. The middle meningeal (posterior branch) was seen running across the anterior part of the hole. The artery and dura mater were intact.

As the dura mater did not pulsate and there appeared to be a dark mass beneath it, it was divided by a horizontal incision; the middle meningeal artery being secured and clipped, a large black blood-clot was then exposed and was removed by the finger.

A large cavity could then be felt, extending almost as far as the finger could reach; this was thoroughly irrigated with weak carbolic lotion until all the clot was washed away. The pia mater was intact, but the brain seemed to be a good deal lacerated over the right frontal lobe.

One catgut suture was introduced into the dura mater and two drainage-tubes inserted, the one upwards and the other downwards, and the two ends brought out through an opening

in the lower part of the flap. The edges of the scalp wound were brought together with silkworm-gut sutures, and a dressing of gauze and salicylic wool applied.

After the operation a small ecchymosis was noticed over the right mastoid region; this was not present the previous day, and though it might have indicated a fracture of the posterior fossa it was more probably produced at the operation.

The same evening the patient seemed to be more rational; he could recognise people, such as his nurse and the doctors, and frequently asked for drink. From that time to 6 the next morning he was more restless. At about midnight he had a slight convulsion confined to the muscles of the face; there was another attack at 7 in the morning, also confined to the face.

In the morning he was more rational than he had been since his admission. He had slept well and had taken a good deal of milk. He vomited once. Although he had lost all power of voluntary movement in the left arm he could move the left leg freely and also the left side of the face.

The next morning, December 14, the wound was dressed and looked healthy, but there had been much oozing. The upper drainage-tube seemed to have been dislodged from within the skull. Highest temperature 101·6°. There had been no convulsions since the operation till 9 P.M. between which hour and 11 he had three slight ones, affecting only the face. In one of them it was observed that the left eye was "blinked" a great deal but the right eye was scarcely moved at all.

December 15 (two days after the operation).—After a good sleep he was more sensible, could move the left hand when asked to do so, and could quite understand his situation. The bowels were not open, but the tongue was moist. The wound looked healthy in spite of a slight bogginess at the lower part. The drainage was very free. He had still retention of urine. Temperature 101°.

December 16.—The last twenty-four hours were passed quietly; sleep on the whole was good, though at times a little disturbed. No convulsion had occurred since the one at 11 P.M. on the 15th.

That day he complained of headache in the frontal region, his tongue had become very dry and furred, the bowels were still unrelieved, and the pulse was 75 and full. There were no signs of paralysis, but the right arm was moved in preference to the left. The wound was dressed and looked healthy, and the puffiness in the lower part was not more marked than

on the previous day. One of the drainage-tubes was removed and cleared of clots. One stitch was taken out at the posterior part of the incision. Temperature was falling and was below 100°.

December 17.—He was in a more rational state; constantly asked for his clothes in a restless manner. Large doses of calomel failed to relieve the bowels, which had not acted since before the operation. The tongue was moist and slightly clearer and the headache was much better. Retention of urine persisted. The pulse was 75, full and regular. Slept well at intervals.

December 19.—The patient was extremely restless and noisy, constantly vociferating and trying to get out of bed. A large quantity of bromidia was administered in the evening, which gave him five hours' sleep during the night. After that he was much more quiet and rational. He continued to improve and the bowels were well open. The tongue was moist and much cleaner; the temperature, too, was near the normal. The grasp of the left hand was weaker than that of the right, but the movements were quite free. The same weakness of action on the left side was observable in the muscles of the face. There was still retention of urine. The patient could now tell the time accurately, and was able to observe things at the far end of the ward. The pulse was 90, fairly full, and regular. The previous day both drainage-tubes were removed and the wound seemed to be firmly healed. There was a small quantity of thin discharge from the track of the tube.

December 20.—The previous day was passed quietly enough, but the patient grew more restless during the night; bromidia, however, gave a few hours' sleep. The tongue was cleaner but somewhat dry. Temperature 99·8°. The wound still showed a good deal of puffiness round the drainage opening; this was opened with dressing-forceps and a new tube put in; some pus was liberated. Two more stitches were removed as they dragged a little on the wound. The pulse was 90, regular, and fairly full.

December 21.—The patient was very restless, often calling out and trying to get out of bed. The bowels were well open. A quiet night followed, and in the morning he was far calmer and more rational. The tongue was furred but slightly moist. The wound was less puffy and the discharge less. Temperature was lower.

December 23.—The last two days the patient was much

quieter, only once trying to get out of bed. Two days before the right eyelids had been rather œdematous, but the insertion of a fresh drainage-tube into the flap soon caused the swelling to subside. There was still a fair amount of thin and healthy-looking discharge from the wound. The wound being firmly healed, all the stitches were removed. The bowels had acted and the tongue was cleaner. Temperature was normal. The patient slept all the night, and for the first time passed urine *per se*. He could now recall the incidents of his accident better than he had yet done.

December 25.—The previous night temperature rose to 100°, but the insertion of a new drainage-tube brought it down to normal this morning. There was no puffiness round the wound or the eyelids. His mental state continued to improve. The bowels had acted and the tongue was clean and moist. The movement of the facial muscles was stronger and the grasp of the left hand more powerful.

December 28.—The patient was still doing well; the drainage-tube had been shortened, and the discharge was now only slight. The tongue was clean and moist.

January 1, 1889.—During the night the drainage-tube came out, and there was a considerable quantity of curdy pus in the wound. Though the mental state was good the last few days showed a slight relapse. The muscles of the left side of the face, and of the left hand were decidedly stronger.

January 2.—The previous day the drainage-tube was removed, and the wound kept open by the daily passage of a probe; a considerable area of bare bone was felt about the trephine hole. Yesterday the patient was up for a short time, and again this morning. He could take nourishment much better, the bowels were acting well, and the tongue was clean and moist.

January 6.—In the night the temperature rose again to 101°, but the wound still looked very quiet. He complained of headache and of aching in the limbs. The bowels had been less regular for the last day or two, and the tongue, though clean, was now rather dry.

January 8.—The high temperature still rose, and in the night was 102·8°, the highest reading during the whole case. The patient had suffered a good deal from nausea and retching, both with and independently of food. In the night he vomited once, and rather frequently during the night and in the morning perspired rather freely. The wound

looked well and discharged less. The previous day he had complained of headache in the left frontal region, but there was none in the morning, and also an absence of tenderness over the branches of the fifth nerve. The tongue was moist and fairly clean. The pulse was 84, regular, but not quite so full. The abdomen was loose but not tender, neither was it distended.

January 11.—The high temperature was maintained, 101·6° the previous night. During the day there had been a good deal of puffiness around the wound, and enlargement and tenderness of the glands over the mastoid process. He perspired freely in the morning, usually perspiring during the night. He took food better yesterday than he had for some days past. His sleep was disturbed by pains in the right temporal region. In the morning there was great œdema all over the right temporal and mastoid regions, and in the eyelid. The wound had closed, and on being opened a good deal of thin pus escaped. For the last four or five days the patient had been wasting a good deal.

January 12.—Chloroform having been given, a director was passed into the drainage wound, and an incision made in an upward direction as far as the bone. It was also extended slightly backwards towards the mastoid. Some pus escaped, and the tissues were very infiltrated and boggy. The patient vomited slightly in the evening. He took liquid nourishment during the night, and slept very fairly. He complained of great tenderness over the temporal and mastoid regions. The pulsation of the brain was well seen at the bottom of the incision, it seemed to be covered by the dura mater. The tongue was moist and fairly clean. The temperature fell to 99°, the pulse was 90, regular, and of fair volume; the bowels had not acted for two days. He did not perspire so much during the night.

January 17.—The wound was granulating very well, there had been no rise in temperature since the 12th. He had slept well, and had not vomited. There was a small slough at the bottom of the wound in the situation of the trephine hole. The pulsation was good, and there was no protrusion of brain.

January 21.—The patient still progressed satisfactorily. Pulsation was well seen in the situation of the trephine hole. The pulsating substance consisted of red granulations like those on the other part of the wound, with a small slough on its surface.

January 29.—He was still doing very well, and the wound filling up. The small slough was removed, and the wound to be dressed with zinc ointment. The patient had no headache, but was a little giddy when sitting up. He slept and ate well. His aspect was very good, and flesh had been gained. He still could not bear any great noise.

February 5.—Was up about the ward assisting the nurse. Said he felt very well, no pain in the head, no paralysis or loss of power; the patient was fast gaining flesh, and looked very well. The wound was healthy and very nearly healed, it being cleaned with red wash. Faint pulsation could be seen at the bottom of the wound, which was nearly skinned over.

Addendum (July 1).—The patient, at this date, is quite well, and suffering no inconvenience whatever from his severe injury.

XXXVII.—*A case of Traumatic Epilepsy: trephining: necropsy.* By D. B. Lees, M.D., and H. W. Page, M.C. *Read April* 12, 1889.

R. P., a horsekeeper, æt. 38, was admitted into St. Mary's Hospital in December, 1888, under the care of Dr. Lees, on account of epileptiform attacks always commencing in the left foot.

Fourteen years ago he was thrown from a horse, falling on his forehead and nose. He was treated at the Greenwich Dispensary, and (according to his own account) five small pieces of stone were removed from his head. He says that he was "unconscious for fourteen days," that he was in bed for a month, and that he did not return to his work for two months.

Before this accident he had been a perfectly healthy man. His mother is said to have suffered from fits, but there is no other history of nervous disease in the family. No history of syphilis can be obtained. He acknowledges that he has drunk much beer, and on one occasion came to the hospital in a state of intoxication.

Since the accident his memory has been considerably impaired, and his manner at times has been strange; his wife says that "he has not been the same man since." Almost immediately after the accident he began to have severe and prolonged headaches, which have continued more or less to the present time.

About seven months after the accident he began to have what he calls "feelings," which always commenced somewhere in the left foot, generally in the big toe, and travelled a variable distance up the leg, thigh, and body. During these feelings he had to support himself by some fixed object to keep himself from falling. Seven years ago (seven years that is after the accident), he began to have "fits;" these were always preceded by a "feeling." Feelings which did not travel up to his head were never followed by fits, but a feeling which did reach the head was invariably followed by a fit. He usually had five or six fits consecutively with short intervals between. After such attacks he remained dull and stupid for some time.

Occasionally he has been free from both feelings and fits

for two or three months together; both, however, have been worse of late, and he says that he cannot do his work. The fits mostly occur at night.

The condition on admission is as follows. He is a powerfully built man of healthy appearance. There is a long vertical scar a little to the right of the median line of the forehead, and the bone beneath it is perhaps slightly depressed. There are other smaller scars over the root of the nose. The left iris is ruptured, and behind it are the remains of a cataract; this eye is almost blind, and has been so, he thinks, since the accident. The right optic disc is found to be perfectly healthy. Percussion of the skull reveals one, and only one, tender spot, situated in the posterior superior region of the right half of the skull, very near to the median line. It is of small extent, its diameter being about an inch and a half. On careful examination, the centre of this area is found to be about three quarters of an inch behind the point of intersection of the sagittal suture by a vertical transverse plane through the posterior border of the mastoid process, three quarters of an inch, therefore, behind the upper extremity of the fissure of Rolando. There is no appreciable loss of muscular power in the left leg, and the dynamometer gives the same result with the left hand as with the right. There is absolutely no anæsthesia on the left foot or elsewhere, and there are no vaso-motor or trophic lesions. There is perfect control over the sphincters. Both superficial reflexes and knee-jerks are normal. The "feelings" are now frequent, ten or twelve daily. They invariably commence in some part of the left foot, not now however in the big toe, but in the instep or in the heel. He has never had a single "feeling" commencing in any other part of the body. Sometimes the feeling passes only a little way up his leg and thigh, sometimes it ascends higher, and then passes down his left arm. When the feeling reaches the head he becomes unconscious. Two attacks of this kind were observed: the unconsciousness lasted only a few seconds; the pupils dilated, there were some chewing movements of the mouth, flexion of the left elbow, and some movement of the left leg, the whole being so transitory that it was difficult to observe accurately. There was no movement whatever of the right side. The more violent attacks, which he calls "fits," occurred almost always at night and were not actually observed, but on two or three occasions he was found by the night-nurse in a dazed condition on the floor of the ward, or on the bed of another patient.

It seemed clear from these symptoms that there was something irritating the posterior part of the cortical centre for the left leg in the right hemisphere. The duration of the symptoms, with the absence of paralysis and of optic neuritis, made it very unlikely that the cause was a tumour. No history of syphilis could be obtained, but to eliminate this possibility large doses of iodide of potassium were given for about a month, without producing the smallest improvement. There remained as possible causes a lesion of the bone pressing on the brain, and a scar in the cortex itself.

We had the advantage of consultation with Dr. Broadbent and with others of our colleagues, and it was unanimously agreed that the case was one suitable for operation. The patient was therefore transferred to Mr. Page's ward, and his head was shaved. The shaving caused an intense feeling of vertigo, and gave rise to "feelings inside his head."

On February 16 the scalp was thoroughly cleansed with soap and water followed by turpentine, and the position of the fissure of Rolando marked out by Thane's and Reid's methods. The two methods were found to give identical results on the bare scalp, though they had not quite agreed before the hair was removed. The scalp was again percussed; it was found that the tender area was entirely behind the upper extremity of the fissure of Rolando, and very near the median line, so near it in fact that Mr. Page was unable to trephine over the most tender spot for fear of injuring the longitudinal sinus. During this percussion the patient had a slight convulsive seizure commencing in the left foot.

Chloroform was then administered, to which afterwards a little ether was added. The patient was somewhat violent during the early stages of the administration, but afterwards bore the anæsthetic well, except that his pulse tended to fail a little.

The operation itself presented no features of special interest. The bone was exposed by the now usual method of turning up a flap of scalp together with the periosteum. Its surface showed nothing unusual, but the trephine soon revealed that it was unduly hard and thick. The dura mater looked perfectly healthy, and was free from adhesions. It was opened, and the parts beneath seemed quite natural. The arachnoid was opened, and there came out a yellow matter which was thought by some to be inflammatory and by others to be part of a Pacchionian body. The surface of the brain was carefully explored with the finger, but nothing what-

ever unnatural could be felt either in the membranes or in the convolutions. It was accordingly determined not to make any larger opening in the skull, and the wound in the dura having been closed by fine catgut sutures, the scalp was restored to its natural position, and so it was sutured except at the lowermost end, which was left open for drainage. The dressings had to be changed the same evening and again on the following morning, because they were soaked with blood-stained cerebral fluid, but after this the flow lessened and on the third day ceased. The wound healed throughout by first intention, and the highest recorded temperature was 100° on the third day.

After the operation the patient had no "feelings" for the first thirty-six hours. During the next five days he had about two daily, but during the following week they were much more frequent. On one or two occasions he had a feeling of transitory numbness and weakness in the left hand.

At 8 P.M. on March 3 he had a violent fit which lasted for ten minutes and left an internal squint on the left side. He was fairly conscious afterwards and expressed himself free from pain. At 10.10 P.M. he had a still more violent seizure, which lasted in all for twenty minutes. With the greatest difficulty he was kept in bed, and the house surgeon thought it necessary to administer an anæsthetic. Accordingly chloroform was given. After the cone had been kept over his nose during five inspirations he suddenly became quiet, his face appearing bluish. On examination his heart was found to be quiescent and breathing to have ceased. A subcutaneous injection of ether was administered, and artificial respiration was kept up for an hour and a half. He was also inverted, and the faradic current was applied, the electrodes being on the neck and epigastrium. All attempts to restore him, however, failed.

The necropsy was made forty hours after death by Mr. Silcock, F.R.C.S., the surgical pathologist. The heart was found to be large and flabby, with excess of fat upon it. Ventricles and auricles were flaccid, dilated and empty. The muscular structure was pale, softened, and evidently fatty. The mitral orifice admitted five fingers. The valves generally showed degenerative thickening, but not in very marked degree. The lungs were emphysematous and congested, especially in the dependent portions. The liver was large, fatty, and congested. The spleen was swollen and congested. Both kidneys showed similar congestion, and their substance

was toughened. The capsule of each was more adherent than it should be, but the surface of the cortex was smooth.

The operation wound was found to be perfectly healed. The trephine opening was filled with blood-clot, partly decolourised, partly dark. On removal of the skull-cap it was found to be abnormally thick throughout, the thickness of the section made by the trephine being three eighths of an inch. The dura mater was adherent around the trephine aperture, both to the bone and to the subjacent membranes. Immediately beneath the trephine hole an incision in the dura mater, partially healed, was evident; there was slight thickening and hyperæmia around the scar of this incision. The longitudinal sinus was normal. The pia mater was adherent to the dura mater and also to the brain beneath the trephine hole, but not elsewhere. The adhesion was found to be over part of the ascending parietal convolution. Section through the cortex at this point showed hyperæmia and softening of the grey matter; the subjacent white matter showed a hyperæmic zone beneath the injured cortex, but was otherwise normal. These changes were really very slight in extent and degree, and were probably no more than would be found in all cases of aseptic trephining.

Over the whole convexity the pia-arachnoid was to a marked degree milky in appearance, and there was large excess of subarachnoid fluid. Sections of the brain showed œdema of the brain substance, but no other abnormality.

On examination of the inner surface of the skull-cap it was found to be much roughened behind the vertex along the line of the longitudinal sinus. Two and a half inches behind the coronal suture, measured on the inner surface in the middle line, the roughening of the bone became more pronounced, a tiny osteophyte being apparent about the orifices of egress of the veins entering the sinus from the diploë. Half an inch behind the last-mentioned point, or three inches from the coronal suture (about one inch, therefore, behind the upper end of the fissure of Rolando), was a more elevated osteophyte, one tenth of an inch long and one tenth of an inch broad, terminating in a rather sharp jagged edge raised only about one sixteenth of an inch above the level of the bony surface around; it was situated in the right line of attachment of the longitudinal sinus, overlapping a foramen of exit of veins from the diploë into the sinus.

We exhibit this evening the skull cap from this case, and wish to obtain the judgment of the Society on the question

whether it is possible that an osteophyte so small and in such a position can have been the cause of the symptoms. Two points must be mentioned in favour of its claim to be the cause:—first, that its position, as far as can be made out, corresponded accurately with the very limited area of tenderness observed during life, which was so near to the longitudinal sinus that it was impossible to trephine over it; secondly, that if it were possible for this little osteophyte to irritate the brain, the locality affected would be part of the cortical centre for the left lower limb, and, indeed, in all probability the centre for the foot, which seems to be situated at the summit of the ascending parietal convolution.

It must, of course, be allowed that the opacity of the cerebral pia-arachnoid (no doubt of alcoholic origin) indicated a condition which, especially in a man whose mother had been epileptic, might well have been an efficient cause of epilepsy. But it is hardly conceivable that if this were the sole explanation, the fits would, without a single exception, have had the same local commencement. On every occasion the spasm began in some part of the left foot, sometimes being almost confined to this, at other times spreading widely. This suggested most strongly a localised irritation, and the suggestion was confirmed by the presence of cranial tenderness on percussion over the area in question, and nowhere else.

It seems indeed hardly credible that so minute an osteophyte can have irritated the brain, yet, unless it or the thickening of the skull around it was the cause of the symptoms, it must be allowed that epileptiform attacks of characteristic "Jacksonian" type, invariably commencing in the same part of the body, together with the presence of cranial tenderness limited to the region covering the cortical centre for that part, afford insufficient evidence of the existence of a "coarse" lesion.

XXXVIII.—*Unilateral incomplete Graves' Disease after removal of nasal polypi.* By Felix Semon, M.D. *Read April* 12, 1889.

On April 27, 1885, Dr. Hopmann, of Cologne, read a paper "On the connection of Diseases of the Nose and Eye" before the General Medical Society of that city, in which he expressed an opinion that the majority of the ocular affections which accompany or are due to certain nasal diseases, are not exclusively of the nature of reflex neuroses, as maintained by Hack, of Freiburg, but that direct propagation of inflammatory nasal processes plays as well a *rôle* in their production as nervous irritation. In the short report of this paper which is published in the *Deutsche medicinische Wochenschrift*, p. 434, No. 25, June 18, 1889, the following paragraph occurs: "A case of unilateral Basedow's* disease was shown to the Society, the cure of which had been produced by treatment exclusively directed to the removal of a nasal affection, which was mainly developed on the corresponding side. This cure had now been permanent for one and a half years." No further particulars are given, and the paper itself has, so far as I know, never been published *in extenso*. The incidental character of this observation probably prevented the interesting fact from becoming widely known.

Exactly one year later, however, a similar case was published† by the late Professor Hack, of Freiburg, under the title: "Contribution towards the Operative Treatment of Basedow's Disease."

Its salient points were the following:

A young lady æt. 17, who since her earliest childhood had suffered from very considerable bilateral exophthalmos and from a tendency to very troublesome obstruction of the nose, became affected, one year before coming under Professor Hack's observation, with shooting pains in the præcordial region, heart-palpitations, tachycardia (pulse of

* In German medical literature Graves' disease goes by the name of "Basedow's disease."

† *Deutsche medicinische Wochenschrift*, p. 425, No. 25, June 24, 1886.

about 100), and enlargement of the left lobe of the thyroid gland. The nasal stenosis was due to considerable hyperplasia of the erectile tissue covering the middle and lower turbinated bodies on both sides. This tissue having been treated on the right side by applications of the galvano-cautery, already on the following day a very surprising phenomenon was noticed: the exophthalmos on the operated side had almost entirely disappeared. The same phenomenon, though not in so very marked a degree and arising more slowly, was observed also on the left side a few days after the nasal erectile tissue of that side had been cauterised. Graefe's symptom (the lagging behind of the upper lid in looking down), which had been present to a very marked degree, also disappeared soon on both sides, and a few months later Professor Hack was informed by the practitioner who had general care of the patient, that the heart palpitations had ceased and that the enlargement of the left lobe of the thyroid gland had diminished, though it had not entirely disappeared. Professor Hack endeavours to explain his unexpected therapeutical success by a chain of theoretical reasoning, the outcome of which might be thus summarised, that he considers the exophthalmic goitre in his case as a reflex phenomenon, due to "permanent irritation of certain peripheral terminal apparatus of the sympathetic nerve which are expanded in the erectile tissues of the nose." This permanent irritation he supposes to lead to such phenomena of *vaso-dilatation* as were represented in his case by the exophthalmos, the enlargement of the thyroid gland, and the demonstrable increase in the heart-dulness, which also existed before the operations were undertaken and which disappeared after their performance.

The third case, bearing upon the connection of nasal affections with Graves' disease, was demonstrated by Professor B. Fränkel to the Medical Society of Berlin on January 18, 1888.* In this case the patient, a lad æt. 17, suffered from a very large vascular, pulsating goître, over which a thrill was noticeable, and from rapid heart action (120 pulses in a minute), but there was no exophthalmos and Graefe's symptom was absent. The patient was treated by means of the constant current. During the course of the treatment nasal stenosis was complained of, the lower turbinated bone on the left side was treated by means of the galvano-cautery, and again the surprising result was witnessed, that the goître rapidly decreased on the left side, whilst the heart action

* See *Berliner klinische Wochenschrift*, 1888, p. 111.

simultaneously became slower. After an interval of three weeks, during which the condition of matters remained unchanged, the right side of the nose was cauterised. A few days later the right side of the goître considerably decreased and the rate of the pulse became normal. In this condition the patient was shown to the Berlin Medical Society. Professor Fränkel deliberately refrained from appending any theoretical explanation concerning the genesis of the improvement. The discussion threw no light upon this important question.

Finally I ought to mention here, that Mr. George Stoker showed on November 25, 1888, a patient who had been suffering from a goître the size of a hen's egg, but who had apparently been free from exophthalmos and tachycardia, to the Medical Society of London.* In his case galvano-caustic treatment of the mucous membrane covering the middle turbinated bones, undertaken on account of chronic hypertrophic rhinitis, had led to complete disappearance of the goître. Mr. Stoker mentioned that he had another case of the same kind under treatment, in which already a diminution of the size of the goître was perceptible. The explanation suggested was, that the cauterisation in the nose produced reflex irritation of the vaso-motor nerves, causing contraction of the blood-vessels in the gland and diminution of the hypertrophy, illustrating the intimate connection that existed between the functions of the thyroid body and the vaso-motor system. The coincidence of degenerative changes in the thyroid and the middle and inferior ganglia of the sympathetic was referred to. It is this explanation which has induced me to mention Mr. Stoker's cases in the present connection, because without it the objection may be raised, that they did not belong to the category of goîtres coming under the head of Graves' disease.

The above list represents, so far as I know, all the material recorded in medical literature, and bearing upon a connection between certain intranasal affections and operations on the one hand and certain neuroses of the sympathetic, such as manifested by exophthalmos, enlargement of the thyroid body, heart palpitations, rapid pulse-rate, &c., on the other. That such a connection exists, appears to be clearly demonstrated by the above-mentioned cases; that it is of the nature of cause and effect seems not less clear, for if the usual objection, viz. that there might have been coincidences, should be raised, it might justly be retorted, that (1) the *rapidity* of the changes in the

* See *British Medical Journal*, vol. ii, 1888, p. 1220.

domain of the sympathetic, following the intra-nasal interference, (2) the fact, that these changes without exception corresponded to the side *operated upon*, directly negatived the hypothesis of a mere coincidence.

Inasmuch as in all the cases in point hitherto recorded, the changes in the domain of the sympathetic have been of a distinctly favourable character, it will not be too much, perhaps, to surmise that these unexpected brilliant results one of these days will be made the basis of the direct suggestion that, as soon as any nasal obstruction or hypertrophy is seen to accompany any of the neuroses of the sympathetic above referred to, the nasal complication should be attacked as a means of curing the neurosis. The very title of Hack's communication, viz. "Contribution to the Operative Treatment of Basedow's Disease," and its concluding remarks, plainly point to this apprehension being more than a theoretical danger.

Under these circumstances it becomes, I feel, my imperative, though not very pleasant, duty to show that the sequelæ in the domain of the sympathetic nerve following intranasal interfence may, under certain obscure circumstances, be of a totally opposite character to those hitherto recorded, *i. e.* that a neurosis of the sympathetic nerve may be *produced* by intranasal interference.

The proof of this statement is given by the following case:

In October, 1887, I was consulted by the Rev. A. M., on account of multiple nasal polypi in both nostrils. The patient, who was then æt. 33, had begun to suffer from his complaint in February, 1886, while living in India. He had been operated upon with forceps in February, March, April, May, July and October, and had altogether had fourteen sittings in that year, only the six last being performed under cocaine. In April and July, 1887, he had, after his return to England, three more operations performed upon him with forceps and under cocaine. After the July operations attacks of asthma, which had troubled him from May, 1886, until then, entirely disappeared. In October, 1887, in May and in October, 1888, I performed three series of operations with the galvano-caustic loop and under cocaine, the polypi each time reappearing with rare rapidity and in large numbers, in spite of thorough clearing of the nostrils and subsequent cauterisation of the bases of the growths. The patient computes the total number of polypi removed by me at 120, moderately estimated.

During the October operations I again removed polypi from both nostrils, operating four times altogether but each time

in one nostril only, and giving half a week's rest to each nostril before the operations in it were resumed. When he returned home on the day of the last sitting (October 12), his wife remarked that the right eye was more prominent than the other, and the patient now states, that a friend whom he visited on October 6, the day of the second sitting, already noticed the peculiarity then.

The patient himself believes, that the eye symptoms came on suddenly, *i. e.* in a day or two, whilst the operations were in progress. I think I remember having myself observed on the occasion of the last visit a difference in the prominence of the patient's eyes, but at that time it was so slight that I did not pay special attention to it, and it certainly did not occur to me that there might be some connection between the intranasal operations and the exophthalmos, such an untoward sequela having been hitherto absolutely unknown to occur after removal of nasal polypi. Shortly after his return home, however, the exophthalmos increased, and I was written to by his general medical attendant, Mr. Williams, of Norwich, who kindly gave me a description of the state of matters and asked my opinion as to the cause of the exophthalmos. In reply I suggested as possible causes (1) commencing Graves' disease; (2) the occurrence of a retrobulbar abscess, inflammation having spread through the foramina ethmoidalia from the nose into the orbit; (3) the polypi having possibly been in part of a malignant character and having extended into the orbit. I, however, stated that I considered the first-named contingency as the by far most likely one; I recommended attention to the conditions of the thyroid body and of the heart, and I expressed a wish to see the patient again. He accordingly came to town on December 13, when I was struck with the prominence of the right eyeball, which had undoubtedly more developed since I had seen him last. I could discover no evidence of intra-orbital abscess, there were only faint traces of recurrence of the polypi, and no evidence whatsoever as to their malignancy. There was no enlargement of the thyroid gland, the heart action was quiet, the pulse-rate normal, there was no reddening or perspiration of the right half of the face, in fact no other sign of a lesion of the sympathetic but the peculiar exophthalmos. Still I held to the view, that the case was one of incomplete Graves' disease, and in order to get certainly on that point, I sent the patient to my colleague, Mr. Nettleship, whose kind report runs as follows:

"December 13, 1888.—Rev. A. M. (P. 17, 154). Right

upper lid considerably retracted (Stellwag's symptom), and lags behind very much in looking down (Graefe's symptom). Upward movement of this eye slightly less than of left, or else the eye stands constantly rather lower than left. The eye decidedly a little more prominent than left.

V. $\frac{6}{18}$ with $\left\{\begin{array}{l}-0{\cdot}5\text{ D.}\\-1\text{ D. cyl.}\end{array}\right\}$ Sph. $\frac{6}{9}$

Left $\frac{6}{60}$ with $\left\{\begin{array}{l}-1{\cdot}25\text{ D.}\\-1\text{ D. cyl.}\end{array}\right\}$ Sph. $\frac{6}{9}$ partly.

Carotids pulsate too forcibly. Sleep restless, complains of irritation of scalp.

"Nothing unnatural to be felt in right orbit. I consider the case to be slight Graves' disease, beginning, as this malady often does, on the right side.—E. NETTLESHIP."

It was, of course, resolved not to do anything at that time, but to simply watch the further development. On February 5 of the present year the patient came again to town, signs of recurrence of the nasal polypi having shown themselves. The conditions of the right eye and eyelid were unchanged, no fresh symptoms of sympathetic mischief had developed, but recurrence of the polypi had undoubtedly again taken place. The patient was most anxious that I should operate again, but I was naturally disinclined to do anything more, and explained to him the risks of further operative interference. My objections were strongly supported by Mr. Nettleship, who saw the patient again on that day. The patient acquiesced for the time in our advice, but wrote to me on March 25 and 27, that the polypi had grown to such an extent as seriously to interfere with his speaking, and that the inconvenience to him in his work had been so great lately that he was willing to face the uncertain results of further operations. In spite of this I replied that the propriety of any further interference would have to be settled first before I consented to comply with his wish, and that, whilst I should have preferred to wait a little longer before bringing his case before this Society, under the circumstances I proposed doing so now. With this proposal the patient agreed, and kindly consented to attend personally for the purpose of being examined by members of the Society.

That in this case, as well as in the others mentioned before, the changes in the domain of the sympathetic are due to the intra-nasal operations, few, I think, will be disposed to doubt. Their occurrence during the very progress of the intra-nasal operations and the rapidity of their development strongly

speak for the causal connection between the two elements. That the prominence of the right eye is of the nature of the exophthalmos of Graves' or Basedow's disease is conclusively shown by the presence of Graefe's and Stellwag's symptoms. Why the right eye alone should have become affected I am unable to explain. Neither the frequency nor the severity of the operations was greater on the right side than on the left. I am equally at a loss to account for the absence of enlargement of the thyroid gland, of heart-palpitations, of increased frequency of pulse-rate, &c. In view of the obscurity in which the pathology of the sympathetic nerve is at present enshrouded, it is easy enough to give theoretical explanations of such an occurrence as has unfortunately taken place in the present case, but it is equally difficulty to prove or to disprove their correctness. Thus the exophthalmos might be explained by the intra-nasal operations having produced irritation of the terminal peripheral sympathetic branches distributed in the nasal cavity according to Hack, and having caused a reflex dilatation of the vessels of the orbit, with turgescence of the retrobulbar fatty tissue. Or a tonic contraction of the unstriped orbital muscle, which is innervated by the sympathetic nerve, due to reflex irritation from the nose, might be accused as cause of the exophthalmos. (The third factor, usually enumerated as instrumental in producing the prominence of the eyeball in Graves' disease, viz. hyperplasia of the retrobulbar fatty tissue, is rather out of the question in the present case, seeing its acute commencement.) Which of these theories, if any, gives the correct explanation in the presence instance, I do not venture to decide.

My object has been to register an event which may be in a small measure instrumental in helping to elucidate some day the pathology of the sympathetic nerve, to draw attention to a hitherto, so far as I know, undescribed possible though certainly rare danger of intra-nasal operations, and to get help in the pressing question whether, under circumstances such as related in the present case, further interference is justifiable for the relief of a complaint seriously interfering with the patient's occupation. In conclusion, I may say that it is certainly not a little remarkable that whilst intra-nasal operations *cured* in this case one neurotic symptom almost certainly due to his nasal affection, viz. the asthma, their continuation, undertaken for the same purpose, should have *produced* another neurosis, viz. the sympathetic exophthalmos.

Note added July 3, 1889.—The opinions of those who participated in the discussion on the foregoing paper having been distinctly favorable to a continuation of the operations, they were resumed on the following day. In twelve sittings undertaken in half-weekly intervals the polypi were completely removed, and their points of attachment touched with the galvano-cautery. The exophthalmos on the right side underwent no change whatsoever; no exophthalmos developed on the other side.

After the third operation, however, it was noticed that the pulse-rate, which so far had always been normal (72—78), had increased to over 100, and ever since until the end of the operations (May 30), when the patient returned to the country, it varied between 100 and 110. There were no heart palpitations, and the thyroid gland did not increase in size.

The complex of symptoms, therefore, is still incomplete, but I naturally see in the increase of the pulse-rate a further corroboration of my view, viz. that the intranasal operations and the phenomena in the domain of the sympathetic witnessed in this case stand in the relation of cause and effect to one another.

XXXIX.—*A case of Fusiform Enlargements of many Tendons, with xanthelasma and gout.* By J. Hutchinson, F.R.S. *Read April* 12, 1889.

A VERY remarkable example of the coincident occurrence of xanthelasma with tuberous swellings on various tendons and periosteal thickenings on various bones, came under my notice in September, 1888. The patient was a Hebrew, æt. 44, of dark complexion and a rich brown skin. He inherited gout and had suffered from it himself on several occasions during the last twenty years. I had known him more or less for a long time, and had assisted Dr. Marion Sims at a successful operation on his mother for vesico-vaginal fistula thirty years ago. His mother, now upwards of seventy-five, is still alive and in good health. His father, who had suffered from gout, died suddenly of heart disease at the age of sixty-five. Both his father and his grandmother (paternal) had been to his knowledge the subjects of xanthelasma of the eyelids almost like himself. I had myself seen his father many years ago.

When Mr. L. called on me, September 29, 1888, my attention was at once attracted to the very conspicuous patches of deeply yellow xanthelasma above and below the inner canthus of each eye. These patches were quite symmetrical, very abruptly margined, and of unusual thickness and extent. He told me that he had had them for eighteen years or more, and that they had followed an attack of jaundice which had been produced by a severe fright, he having been very nearly run over at a railway station in crossing the lines. It did not appear that the jaundice attack was of unusual severity, and as far as he remembers he was only ill a week or two. Whilst I was looking at his eyelids and advising him to have the patches, which were very disfiguring, cut out, he observed, "but I have not come about them, I have something else to show," and baring his arm he exhibited a rounded swelling about as big as one half of an egg over the olecranon. I took it for an enlarged and thickened bursa; it adhered to the skin, which was reddened, but did not fluctuate. It was quite painless, and all around its base, in a furrow caused by its somewhat overlapping the adjacent skin, were a number of little streaks of yellow xanthelasma growth.

I advised him to have this excised also, but he replied that it gave him no trouble, and added, "If you once begin cutting me I don't know where you'll end." He then proceeded to show me his feet, and I found placed quite symmetrically in connection with the tendo Achillis and os calcis firm tuberous enlargements which adhered to the skin and projected backwards so as to overhang the lower part of the heel. Above these, more deeply placed and not adherent to the skin, and confined to the tendon itself, there was on each side an ill-defined firm swelling. The conditions were exactly symmetrical. I now made him strip and proceeded to examine his whole body, with the result of discovering many enlargements of tendons of which he had no knowledge. Thus there was one in the tendon of each quadriceps about half an inch above the patella, and there were a number in the tendons of the extensors of the fingers and toes. In all cases the enlargements were absolutely painless and quite free from tenderness. They were somewhat ill-defined, tapering off above and below; in all cases they moved with the tendon and were clearly in its substance. They showed a tendency to grow superficially and become adherent to the skin, cellular tissue, and sheath overlying them. I could not find any xanthelasma patches anywhere else but on his eyelids and surrounding the olecranon bursa on his right elbow. He had assured me there was nothing amiss with his left elbow, but on examining it I found very similar conditions. There was a mass of fibrous thickening under the skin exactly in the position of the bursa, but not showing any of the characters of a bursal cyst, and around its edge in front there was a distinct lip of bone, which had grown on the back of the ulna. There were similar lips of bony outgrowth and of larger size on the front surface of the tibia and just below the insertion of the ligamentum patellæ, one just below the other and placed with exact symmetry. All of these had developed with such absolute painlessness that he was quite unaware of their presence; the maladies which had brought him to me were, extreme soreness of the soles of his feet, so that he could scarcely bear to stand, and a distressing sense of heat in the top of his head. He had also of late, he said, become nervous and miserable, so that he could scarcely attend to his business. In spite of what he mentioned on the latter head he had the appearance of a florid, well-conditioned man. He had, he said, married at the age of twenty and had never had syphilis. Four years ago he had been attended by the late Dr. Moxon

through a severe attack of typhoid, since which until quite recently he had been much better than formerly as regards freedom from headaches and rheumatic pains.

One of the principal problems which presents itself in connection with this case is, as to whether the tendon enlargements are to be considered as being due to his gouty tendencies or as part of his xanthelasma, or finally whether they are independent of both. Mr. L. is a man who has all his life lived freely and taken but little exercise, and he has had, as already stated, several attacks of unequivocal great toe gout. I could not, however, on any of his joints or in his ears discover any definite tophi; and the swellings on the tendons were certainly not of that nature. The extreme tenderness in the soles of his feet, of which he made great complaint, was very possibly due to gout. And he admitted that the joints of his knees were so tender that he dare not kneel, and said that he did not kneel even to get into bed, but jumped in sideways. His favourite stimulant for many years had been whiskey, and he had taken but little wine or malt liquor. It certainly could not be considered that he was at present suffering in any very definite manner from acquired gout, nor had he had it in the great toe for some years past.

It will be seen that we have disease of fibrous tissues in three different forms—as peritosteal outgrowths, bursal enlargements, and thickening of tendons. The chief fact which seems to connect any of those with xanthelasma is, that the only definite bursal enlargement which he shows is surrounded by a yellow ring of the latter. Xanthelasma when it becomes generalised is, I think, very apt to affect the olecranon region and to be attended sometimes by bursal enlargement. In such cases, however, it is probable that local irritation, such as pressure, &c., has much to do with its production. I incline therefore to the belief that the xanthelasma and the tendon enlargements have no very close connection in this case, and that the latter are to be regarded rather as the consequences of the inherited gout. I have never seen any other example of multiple tendon enlargement of such a conspicuous character. But isolated lumps in tendons are I believe, every now and then met with. My own experience of them, which is but small, would lead me to believe that they are of a gouty nature. The case which occurs to my memory as most nearly related to the one I have narrated occurred in the person of a gentleman of about forty, who inherited gout and had also suffered from acquired syphilis. In him the tendo Achillis on both

sides became much enlarged in a fusiform manner; the question was whether it was syphilitic or gouty. I had him under observation for several years, and after a full trial of specific remedies, the balance of evidence seemed to be in favour of the belief that it was gouty.

XL.—*A case of Total Extirpation of the Larynx: recovery with a useful voice.* By GREVILLE MACDONALD, M.D., and CHARTERS J. SYMONDS, M.S. *Read April 26, 1889.*

DR. MACDONALD reports the early history as follows:

J. M. B., æt. 41, married, a commercial traveller, first consulted me on April 6, 1888, for loss of voice, from which he had suffered increasingly for the last five or six months. He attributed it to a bad cold which he caught in November, 1887. He had always enjoyed perfect health; his family history was excellent; he had never had syphilis; he had been a strictly moderate drinker, though smoking rather heavily, on an average 4 oz. of tobacco in a week, and that always in pipes. His general appearance and a careful physical examination proclaimed him to be in perfect general health and condition. His colour was good and there was no loss of flesh.

He was almost completely aphonic, and had slight dyspnœa on excessive exertion. There was no pain nor cough, neither expectoration nor hæmorrhage.

The appearances of the nose and pharynx were in every respect normal. Laryngoscopic examination revealed a large superficially and irregularly lobulated, greyish, streaked with dirty pink, opaque neoplasm, filling the anterior half or more of the rima glottidis. It concealed the anterior three fourths of the left vocal cord, and, during attempted phonation, the anterior half of the right cord; but on inspiration it fell lower in the larynx, and left the right cord free. During phonation also it concealed the lower and anterior half of the left ventricular band, but receded from it in abduction of the cords. The posterior surface of the growth presented a superficial ulceration as large as the quarter of a split pea. The floor of the ulcer was slightly yellower than the surface of the neoplasm; the edges, not thickened or raised, were fairly defined, though rather irregular. Immediately to the left of the ulcer a small piece of the growth projected directly backwards. The ulcer and projection were visible only during approximation of the cords. Examination with the probe appeared to indicate that the neoplasm had an extensive attachment to the infraglottic portion of the left cord, although, being soft, yield-

ing, and closely packed between the cords, this point was not very easy to determine. But the ventricular band appeared quite free from any implication (Fig. 20).

FIG. 20.

Both vocal cords moved freely, except so far as the left was impeded mechanically. The posterior fourth of the left cord—the only portion visible—was greatly thickened and of a dusky, congested colour.

I immediately informed the patient's brother of the grave nature of the disease, and suggested that the case would be an admirable one for operation; but at the time I expressed no more definite opinion.

On April 12 I removed with laryngeal forceps the posteriorly projecting portion of the neoplasm. The specimen was examined microscopically by Dr. F. Willcocks, Mr. Watson Cheyne, and myself, the general opinion being that it consisted almost entirely of epithelium and was probably epitheliomatous. A dense horny layer of epithelium covered the papillomatous-like lobules. Immediately beneath this were irregular masses of loosely packed epithelial cells which sent irregular finger-like processes covered with a layer of more regular columnar cells into the deeper structure, there running havoc in an ill-defined epithelial growth interspersed with a fibrillar stroma filled with small round-cells.

These characteristics, together with the clinical aspects, caused me on April 15 to advise very strongly the extirpation of half the larynx. On April 24, a consultation proving adverse to any immediate external operation, and the patient expressing himself very desirous of procrastination, I removed so much of the neoplasm as projected into the larynx with a single grasp of the laryngeal forceps. Hæmorrhage was rather profuse. The growth was very soft and friable, almost of brain-like consistence. Microscopical sections threw no fresh light on the pathological anatomy. On the

following day (April 25) the patient's voice was completely restored. There was no sign of any neoplasm whatever in the larynx, nor could we ascertain precisely the site of attachment of the portion removed from the vocal cord. But the latter was uniformly thickened and rounded, and deeply congested, its movements being perfect in adduction as well as abduction.

On May 11 patient returned home to Liverpool, believing himself cured in spite of my rather ominous warnings. The appearances on that day were as follows: the whole of the vocal cord, though even and uniform, was thickened and of a dusky congestion, while at the junction of the anterior with the middle third, midway between the attached and free margin, was a sharply defined, silvery surface, flush with the mucous membrane, two or three lines in its longer diameter, which lay in the same direction as the cord. I had never seen any similar appearance, either in the larynx or on other mucous membrane.

On May 25 patient reported himself. I found the appearances identical with those of the fortnight before. I examined the silvery spot on the vocal cord with a probe, and discovered the surface to be velvety, minutely villous. The probe, moreover, was easily pushed below the surface for perhaps one or two lines without producing hæmorrhage. Having anæsthetised the larynx with cocaine, I then plunged into the suspicious spot an electric cautery point, holding it there for one or two seconds. On the following day the only alteration was the presence of a slough rather more extensive than the villous surface. I saw the patient daily for a week, at the end of which interval the cauterised surface had contracted to the size of a pin's head, although the uncicatrised portion was still white and silvery. The patient went home again, instructed to use a spray of chloride of zinc.

On June 18 patient again reported himself. The voice had been not quite so good, and he complained of a good deal of fatigue after using it. The appearances had not materially altered, except that the villous spot had enlarged again to its former dimensions.

On July 30 I again saw the patient. The voice had improved again, and was only a trifle hoarse. The left vocal cord appeared rather more congested, and the villous spot had become raised above the mucous membrane, was yellowish and opaque. The patient was again warned of the probable nature of the disease, although an operation was not pressed.

On August 26 the appearances had in no way altered, and the vocal cord moved quite freely, but the patient had more difficulty in phonation.

On September 8 there were complaints of increasing vocal trouble. The growth had obviously taken a fresh start and was projecting over the margin of the cord, involving that region and part of the subglottic portion of the cord, and extending forwards to the anterior commissure. I asked for the opinion of a colleague, who, while admitting the now unequivocal malignancy, discountenanced any operation. Accordingly the patient was again advised to wait for the present, to which he only too willingly consented.

On October 20 patient wrote to say his voice was much worse. I advised his coming to town immediately, and when he appeared on the following day I once more urged upon him the advisability of an external operation. This I still felt would give fair hope of success, seeing (i) that the growth was, although as large as on the first examination in April, still apparently limited to the left vocal cord; (ii) that the arytenoid cartilage moved freely, the cord being impeded only mechanically; (iii) that there was no pain, hæmorrhage, or purulent expectoration; (iv) that there were no enlarged glands; (v) and that until the last few weeks the progress had been very slow. I asked the patient for a consultation with Mr. Charters Symonds, the result of which will now be detailed by that gentleman.

Report of the operation by Mr. Symonds.

We proposed to remove the left ala with the growth and the cord, and probably the arytenoid, and leave if possible the right cord, as without his voice Mr. B. would be unable to follow his business.

On October 28 chloroform was given by Mr. Poolman, the resident medical officer of the Bright Pay Ward at Guy's Hospital, and assisted by Dr. Greville Macdonald and Mr. Tubby the operation was performed. The trachea was exposed above the thyroid isthmus, and here Hahn's tube was inserted, and then, by the apparatus attached to it the anæsthetic was administered. The incision was next carried up to the hyoid bone. A supernumerary hyoid lobe of the thyroid gland had to be removed. The muscles were drawn off from the left ala and then the cartilage was divided in the median line, It had ossified and was with difficulty divided with the knife. The thyro-hyoid and crico-thyroid membranes being divided.

a clear view was obtained of the interior, and the growth was seen to be much larger than expected. The mucous membrane and perichondrium were next divided near the upper margin of the ala and reflected from the upper border, the superior cornu being left. The whole of the outer surface was then easily exposed by stripping off the perichondrium. Then the inferior cornu was cut off and the crico-thyroid muscle divided. Drawing the ala well forward, the mucous membrane was divided up the middle line behind, and the arytenoid detached from the cricoid and enucleated from its covering of membrane, when the entire mass came away. One vessel only required a ligature. The anterior half of the right cords were swollen and red, so that two thirds were removed and the ends stitched forward with catgut. Hahn's tube did not completely prevent blood trickling down, but this was entirely controlled by plugging the cricoid ring with a sponge to which a silk ligature was attached. The wound was washed out everywhere with sublimate solution and freely dusted with iodoform, and stuffed with iodoform gauze. The sponge was left in the cricoid for one day.

The part removed at this operation included the left ala of the thyroid cartilage with the exception of the two cornua, the entire arytenoid, and the vocal ends with growth attached, and the muscles on the inner aspect of the cartilage (Plate XI, fig. 1). The perichondrium was divided near the superior margin and turned off the border and outer surface, so that the external muscles were not divided; and by using scissors and drawing the thyroid well forwards, the arytenoid was removed without injuring the pharynx. The growth was much larger than expected. It was lobulated in outline, about as large as a hazel-nut, or three quarters of an inch in thickness. It involved nearly the whole length of the left true cord, and grew upwards into the ventricle. Forwards it reached nearly the anterior extremity of the cord. The right cord was swollen and red, but did not appear to contain growth, nor did Mr. Tubby, who made a fresh section for me at the time, discover any epithelial growth. We decided, however, to remove the anterior half of this cord, to make sure of a good result. This being done the stump, which retracted, was stitched forward with catgut. The cartilage was not infiltrated by the growth, so that it certainly would have been possible to have left it. In structure the growth was a well-marked epithelioma.

Next day Hahn's tube was replaced by an ordinary

Durham's cannula, round which sufficient gauze was wound so as to plug the trachea. On the fourth day he sat up, on the sixth he swallowed with ease, having been fed up to this time by an œsophageal tube.

On the seventh day he got up and rested on a sofa; on the ninth day the tracheal tube was removed, and he took ordinary diet. On the thirteenth day he went out for a walk, the weather being fine. By the sixteenth day the tracheal wound had closed, and on November 17 he left the hospital, just three weeks from the operation, with a small wound one inch by a quarter of an inch remaining. He was in good health, and had a strong and distinct voice though rather hoarse. His friends affirmed that he spoke better than before the operation. The only trouble during the after-treatment was smart bleeding from a vessel in the fascia on the seventh day. This was probably a small artery supplying the hyoid lobe of the thyroid gland, which had to be dissected off during the early stages of the operation and had been cut vertically. It was easily secured. He had no cough, no fever, and no trouble of any kind. The plan of dressing found most convenient was to use a square of gauze and put it well down into the cricoid, and then to pack this with strips. This plan prevented saliva passing into the trachea.

A short time after he left he had some difficulty in breathing, which we attributed to cicatricial contraction. On November 22 this dyspnœa increased, and by the laryngoscope the aperture looked small and oblique, with smooth margins. He spoke well, and we thought that when the cicatrix settled down he would improve. In this we were disappointed, for the difficulty increased, and in December became dangerous, so that he re-entered the Bright Ward on December 16 and was immediately tracheotomised by Mr. Poolman at my request. I made, in association with Dr. Macdonald, several attempts to dilate the aperture, but so much bleeding took place that we were obliged to desist. This hæmorrhagic tendency pointed to growth, and later we could see by the mirror a definite mass bulging upwards on the *right* side. The rapidity of the growth was most surprising; it changed from day to day, and increased so quickly that it became necessary to decide at once upon further measures. Without going to all the details of this period, it is sufficient to say that on the grounds usual in malignant disease, the patient pressed a very strong wish to have the rest of the larynx removed with the growth. In the absence of glandular

enlargement, the chances of a good result were as great as in malignant disease in any other part of the body. On December 22, seven weeks from the first, the second operation was performed and proved to be much easier than the former one. Hahn's tube was again used. The right side of the larynx was freed, and the left side, which had become so hard that it felt as if nothing had been taken away, was next exposed. The sterno-thyroid muscles were divided. The connection between the cricoid and trachea was carefully divided so as not to injure the œsophagus, and then with scissors the whole larynx was removed. The pharynx was cut off close to the thyroid and cricoid behind, and as little as possible of the mucous membrane removed. The lower third of the epiglottis was also removed. The large cavity left was bounded behind by the posterior wall of the pharynx and œsophagus. The margins of the pharynx were brought together in the hope that union would take place, but this proved useless. The wound was dressed as before. No bleeding of any moment took place, nor did any blood enter the trachea. A feeding-tube was passed through the mouth and retained for two days, but gave so much inconvenience that it was subsequently passed into the pharynx through the wound.

The parts removed at the second operation included the cricoid, the entire right ala of the thyroid with the muscles on its outer surface, the remainder of the left ala with the muscles surrounding it, and the lower half of the epiglottis. On looking into the larynx from above, the growth was seen projecting upwards, and its lower end was seen in looking through the cricoid ring below. It had moreover grown forward by the side of the ala and formed a large mass inside the cartilage. On laying the cricoid open from behind the appearances presented in Plate XI, fig. 2, were seen. This drawing was made after the specimen had been in spirit three months. The growth reached from the epiglottis to the lower margin of the cricoid, and was disposed chiefly on the right side. The recurrence had evidently arisen in the stump of the right vocal cord. The arytenoid was seen to form the posterior limit of the mass, and this point of cartilage is well seen in the drawing. It will be seen from this description that the recurrence was very rapid and extensive.

Next day Hahn's tube was replaced by a Durham's cannula covered with rubber tubing and gauze so as to plug the trachea. It was found, however, in a few days that the amount of gauze necessary shortened the vertical back of the

tube so much as to render it ineffective. This was met by having a tube made three quarters of an inch longer in the vertical limb. Later on the amount of gauze was diminished till the cannula alone was used, the aperture contracting rapidly.

He swallowed on the eighth day by lying flat upon his back, and on the tenth day he was up. No complication of any kind occurred. There was no cough and no fever. The dressing was made as after the first operation. Some of the fluid continued to escape for a time, but gradually the amount diminished as the wound contracted. He remained in the ward for some time, at his own request. In about a month from the operation he could attend to the tube himself, and the upper wound was reduced to a pinhole. He had improved in health and was in excellent spirits.

It now became necessary to provide an apparatus to enable him to speak. After some trouble an artificial larynx was obtained from Vienna, but seemed so large and cumbrous, and the reed sound so like a penny trumpet, as to be unsuitable. Having heard of a case in Germany in which the patient was able to speak without any apparatus, we decided to adapt an upper tube like that of the artificial larynx to an ordinary cannula and see if the tissues could be made to vibrate. Silver seemed the most suitable material on account of the greater amount of room that could be secured.

After various experiments had been made with leaden tubing, this apparatus, new to me, was devised. It consists of an ordinary large Durham's cannula, and carries immediately behind the shield a circular opening on the surface. Though this passes a short curved tube, in a direction upwards and then slightly forwards, projecting above the lower tube about three quarters of an inch. In the posterior wall of that portion of the upper tube included within the lower, is an orifice to admit of air passing up into the pharynx or out at the tracheal opening at pleasure. The upper orifice is contracted to less than one-eighth of an inch in diameter, the idea being to imitate the loud aphonic voice, so to speak, observed clinically as the result of the approximation of the ventricular bands, so that the air whistles through the small space left between them and the interarytenoid fold. The surmise was so far correct that an audible voice was immediately produced, considerably louder than that of aphonia. After wearing the tube, however, for a few days the patient developed a loud, vibrating voice, due obviously to the falling over the tube of a bilateral fold of

mucous membrane to be described immediately. And although there is a good deal of fatigue after using the voice, the latter is infinitely better than it was for the few weeks before the first operation.

During deglutition it is necessary to replace the upper tube with one similarly shaped, but closed above so as to prevent the passage of food, &c., into the tracheal cannula. These tubes, before being made in silver, were modelled with a penknife in composition gas-piping, which lends itself very readily to variations in curves, &c.

The present laryngoscopic appearances are as follows. The epiglottis appears perfectly normal and symmetrical in position and shape, although its lateral margins look more posteriorly than before the operation. Behind this we see only a funnel bounded by the lateral and posterior walls of the pharynx and the epiglottis. The bottom of this funnel is composed of two folds of mucous membrane running anteroposteriorly, between which anteriorly the air passes during phonation, causing them to vibrate. When the upper tube of the artificial larynx is not *in situ* these folds lie in close approximation; but otherwise they are slightly separated, and between them may be seen, when mucus does not obstruct the view, the orifice of the tube.

The patient can now speak in a loud though rough voice, which is not monotonous. The sound is produced as described above, by vibration of the mucous membrane of the pharynx. He can speak better without than with an upper tube; but this latter is necessary to keep the channel open. He can be heard distinctly in a large room and can sustain a conversation for some time.

In support of this operation we would contend that there is as much reason for performing it for disease of the larynx as there is for that in the tongue, and that the patient's prospects are equally as good. There were no complications whatever in the present case, either special to this particular operation, or to an ordinary wound. The saliva flowed out of the wound but never passed into the trachea, and there were at no time any pneumonic symptoms. The man may be said to have had three and a half months, out of the four that have elapsed since the operation, in perfect comfort, and is at the present time in perfect health—circumstances which seem to justify fully the operation that has been performed. To the early recognition of the disease, and its removal while still intralaryngeal, must be attributed the success in this case.

Even if recurrence does take place it cannot be used as an argument against the operation, seeing that if it had not been performed the man would in all probability have succumbed before the present time, or would have been in the usual distressing condition into which these cases pass. Moreover it must be remembered that the diagnosis was made and the operation strongly advocated six months before consent was obtained.

Addendum (June 19).—The patient presented himself with a tumour as large as a hen's egg occupying the lower part of the right anterior triangle. He had first noticed it four weeks before. He complained of cough with a sanguineo-purulent expectoration, and he was evidently emaciating.

(July 5).—The patient was seen again. He was much emaciated, and the growth in the neck had increased rapidly, and now pressed the tube to the left. He had a good deal of cough, and appeared to have but a few weeks to live.

DESCRIPTION OF PLATE XI.

Dr. Macdonald's and Mr. Symonds' case of Epithelioma of the Larynx.

FIG. 1.—The parts removed at the first operation:

(1) Ala of thyroid.
(2) Arytenoid cartilage.
(3) False cord (swollen).

The epithelioma is seen to involve the true cord; the thickness of the false cord is due greatly to the shrinking of the parts; the free part of the cord behind the growth is not shown.

FIG. 2.—The parts removed at the second operation:

(1) The divided margins of the cricoid.
(2) Right ala of thyroid cartilage.
(3) Cut edge of the epiglottis.
(4) Right arytenoid cartilage.

The specimen has been drawn obliquely in order to show the arytenoid, but it can be seen that nearly the entire growth is to the right of the median line.

Fig 1

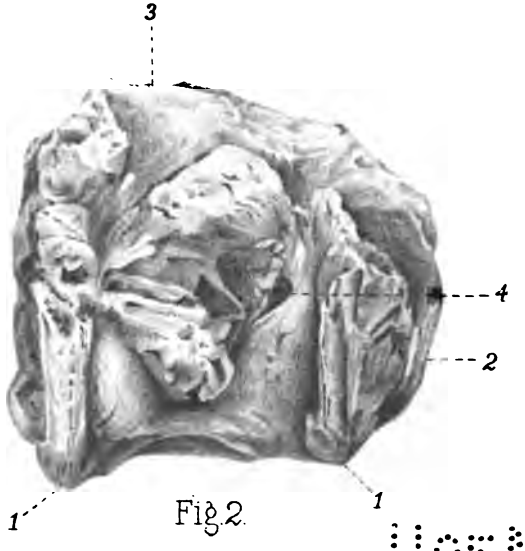

Fig 2.

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XLI.—*Five cases of Complicated Disease of the Middle Ear.* By W. Arbuthnot Lane, M.S. *Read April* 26, 1889.

CONSIDERING the comparative rarity of disease of the middle ear complicated by suppuration in its vicinity, and the difficulty which exists not unfrequently in determining not only the special character of the various complications but also the presence of any of them, as well as the importance of arriving at a diagnosis without loss of time, I do not hesitate in bringing forward five such cases, each different in the character of its complication, which came under my care within the last six months. I will describe them as briefly as possible, and I think a consideration of the details will confirm us in believing that, as but slight risk is involved in operative interference, it is wise, when in doubt as to the existence of complications, to act at once, and to make as complete and searching an exploration as possible.

Case 1.—C. B., æt. 38, was a well-nourished woman whose only trouble had been a slight cough during the winter months. On August 21, 1888, while turning her head somewhat suddenly in bed, she felt as if something had given way in her right ear, and a sharp pain in the right side of her neck. She also noticed that some offensive matter was escaping from the auditory meatus. She says that up to this time she had experienced neither pain nor discomfort in her right ear. After this event she suffered from pain, which rapidly increased in severity, in the right side of her head and in the upper part of her neck. This pain was greatest in and about the ear. She was admitted into Guy's Hospital under Dr. Pavy on August 28, and during the few days spent in a medical ward her symptoms became more marked. She came under my care on September 5, when she complained bitterly of the aching in the right side of the head. There was tenderness on pressing on the mastoid process, but the soft parts over it were neither red nor œdematous.

There was a tender and painful fulness beneath the upper half of the right sterno-mastoid.

Pus welled out from an aperture in the membrana tympani. There was no optic neuritis. She could not hear a

watch placed upon or behind the right ear, and on the left side she could not hear it at a greater distance than seven or eight inches. The temperature at 5 P.M. was 100°.

On the morning of September 6 the mastoid cells were opened up freely with a gouge and were found to contain much pus and lymph. The lateral sinus was exposed and seen to be healthy. A channel was cut into the middle ear and much caseous lymph and pus were removed from the carious cavity. A metal tube, perforated at its extremity, was fixed in the middle ear so that its outer end was flush with the scalp. In the evening the patient declared that her headache had disappeared and that she felt a different woman. She still complained of pain about the sterno-mastoid when it was pressed upon. As it seemed probable that the swelling in the neck was produced by pus burrowing downwards from the mastoid process, blisters were applied freely over it with a view of hastening the suppuration and relieving her pain.

This had the desired effect, and on October 24 an incision was made into it and an ounce and a half of pus evacuated. A probe passed into the abscess cavity could be introduced into the mastoid process.

The middle ear was irrigated daily through the metal tube and meatus, the fluid passing freely either way. The patient left the hospital on October 7 wearing a silver tube. The discharge had ceased some time before.

Case 2.—M. E., æt. 12½, was admitted into Guy's under the care of Mr. Howse on September 18, 1888.

When eight years old the child had "low intermittent fever." In August, 1887, an abscess formed in her right ear, which got well soon with poulticing. She does not appear to have had any further discharge from or trouble with the ear till a fortnight before her admission, when she complained of pain in and about the same ear. The pain increased and the parts became much swollen.

On admission there was a copious offensive discharge from the right ear, and extending upwards from it for three inches, and forwards and backwards from it for an inch and a half, was a large fluctuating swelling. This was freely incised, and about six ounces of very offensive pus escaped. Bone was exposed over the whole area of the abscess cavity.

On September 19 the child had quite lost her pain, she sat up in bed and ate well. A little discharge came away from the wound.

Everything progressed favourably till the morning of September 23, when she seemed disinclined to pay much attention, and was a little drowsy. Temp. 98·4°.

At 2 P.M. the drowsiness became more marked, and at 4 P.M. the child complained on being disturbed. Temp. 99·6°. The left pupil was more dilated than the right. The pulse was slow. The patient vomited at 2.30, and again an hour later. At 6 P.M. temp. 101°.

At 8 P.M. pulse was quicker, 78. The drowsiness had increased, though she could be roused to consciousness, and answered questions when frequently repeated to her.

At 9 P.M. she was less conscious, and at 9.30 she was quite unconscious, and her respirations were very slow and stertorous.

In Mr. Howse's absence I saw the child at 10.45. Her pulse was then very feeble and rapid. There was no optic neuritis. The respirations followed one another at very long intervals, and each seemed as if it would be the last. I assumed that there was an abscess in the temporo-sphenoidal lobe, and that it had produced a rapid increase in the intraventricular tension, probably by rupturing into the descending cornu of the lateral ventricle. As death seemed very imminent, I hurriedly gouged out a piece of the squamous portion of the temporal bone, inserted the needle of an aspirator into the temporo-sphenoidal lobe, and removed about three and a half ounces of most offensive pus and fluid. As this was being evacuated the intervals between the respirations became rapidly less prolonged, and then normal in their duration. The conjunctival reflex returned and the child flinched on being hurt. The dura mater was then opened and the brain forming the outer wall of the abscess cavity was apparently quite healthy. An opening of sufficient size to admit a drainage-tube was made into the abscess cavity, and irrigation with warm boracic lotion was continued till the fluid which returned was sweet and clear. The child seemed much better after the operation, but at three o'clock on the following morning the pulse again became quick and feeble, and the respirations slow and separated by intervals which gradually increased in length till the child died at 3.20. The post-mortem examination verified the conclusions arrived at at the time of the operation. In this case the abscess gave no indication of its presence till within about eighteen hours of death.

Case 3.—E. T., æt 12, a well-nourished girl. Had always enjoyed good health, and had not suffered from any of the diseases of childhood. When seven years of age she received a blow on the side of the head from a teacher, which was not followed by any apparent ill effect.

About three weeks before her admission into the hospital she caught a cold and noticed that a little mattery discharge escaped from the right ear. She had no pain in her ear, and the discharge disappeared in a few days.

Nine days before admission, on blowing her nose, she experienced a loud cracking noise in her right ear, and a sensation as if something had given way in it.

On the following day there was some discharge from the right ear, and the child complained of pain in the back of the head. This pain gradually increased, and on October 4 Dr. Herron was called in. He, suspecting that the cerebral conditions might be secondary to disease of the ear, asked me to see her in the afternoon with him. We found no pain, swelling, or tenderness in or about the right ear. She referred the headache to the occipital region. There was a very offensive purulent discharge from the meatus, and it could be seen welling out from a vertical aperture in the membrane. There was obviously no obstacle to its free escape from the middle ear. The temperature was 100°, and the pulse was quick. There was marked optic neuritis on both sides. There was some retraction of the head. There was neither tenderness nor fulness along the course of the internal jugular vein. The right ear was quite deaf. The child answered questions fairly readily and did not object to being examined.

As we thought that the cerebral condition was probably secondary to the ear trouble, and that it was still possibly remediable, we decided to explore. The child was admitted into the hospital under my care. During the few hours that intervened before the parent could make up his mind to allow operative interference and the operation, the symptoms became more marked, and the child was twice sick.

The upper surface of the petrous bone was exposed without pus being found. The mastoid cells were opened and a localised collection of pus was found in the deepest of them. The middle ear contained some pus. The lateral sinus was exposed and it was seen to be healthy. On separating the dura mater from the posterior surface of the petrous bone at some depth from the surface of the skull, about a drachm and

a half of very offensive pus was expelled with some force. This abscess cavity and the middle ear were freely irrigated, and, as far as it was possible to judge, the dura mater forming its walls appeared to be intact. I may say that as little force as possible was used in examining the dura mater and in irrigating the abscess cavity, as from the amount and foulness of the pus I feared that it was probably very soft, even if it had not been already perforated. Suitable drainage was effected and the wound closed. An ice-bag was applied to the head.

October 6.—The child had quite lost her headache and the retraction of the head was apparently much less marked. During the night the temperature ran up to 101°.

October 6.—The child took her food well and was very cheerful. The temperature ranged between 100° and 101°.

October 7.—Towards evening the child became somewhat drowsy and the headache returned.

October 8.—At 2 A.M. the temperature ran up to 105·6° and fell to 99° at 6 A.M. The headache and drowsiness increased slightly. The middle ear and abscess cavity had been frequently irrigated, and there no obstacle to the escape of pus, which was secreted abundantly, so that there did not appear to be any indication to interfere further, it being only too probable that the dura mater forming the wall of the abscess cavity had yielded.

The drowsiness and headache increased daily and the child died on October 14.

The post-mortem examination showed that there was a small perforation in the softened dura mater and that the abscess cavity communicated directly with that of the arachnoid below the tentorium, the arachnoid over the cerebellum being covered with a layer of pus. The arachnoid cavity above the tentorium contained no pus nor was there any obvious inflammation of the pia-matral tissue.

It appeared probable that the abscess cavity had been in communication with the subdural space before the operation and that the latter was drained as well as the former by the operation, accounting in this manner for the remarkable improvement that took place in the condition of the child after operative interference. I feel inclined to the supposition that the communication took place on September 27, the day preceding the onset of the occipital headache. If this is correct the child, previous to the onset of the arachnitis, presented no symptom of the presence of the considerable accummulation

of pus that must have existed between the petrous bone and dura mater.

Case 4, the following brief abstract of which is obtained from a report by Mr. A. T. Brown:

G. S., æt. 10, was admitted into Clinical Ward under Dr. Perry's care on August 15, 1888. He had measles at ten months. Since he was eighteen months old he had suffered periodically from trouble in his right ear. Each attack commenced with earache, followed in a day or two by a purulent discharge, after which the pain ceased. The duration of the intervals between the attacks rarely exceeded three months.

He was seen by Mr. Purves in November, 1887, after one of these attacks and a polypus was removed from his ear. Since that date he has attended the aural out-patients more or less regularly.

On August 2 he fell and struck his forehead, bruising it.

On August 8 one of his attacks commenced, and the ear and surrounding parts became painful and swollen.

August 9.—The pain in and about the ear increased, and he complained of pain in the top of the head. The discharge from the ear appeared. He was sick in the afternoon, he became dull and lost his appetite.

August 10.—Was a little better.

August 11.—The pain and swelling increased and he complained greatly of feeling cold.

August 12.—The swelling disappeared together with the pain. He was very thirsty and was sick once.

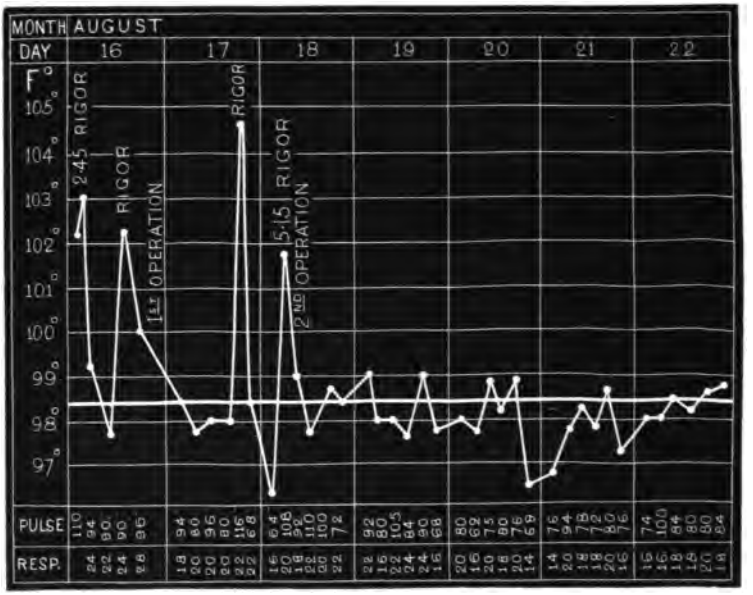
August 12.—He saw Mr. Purves, who removed a small polypus from the meatus.

He was admitted on the 15th. He lies in a semi-unconscious state, taking no interest in his surroundings. There are tenderness and redness over the mastoid process and above the ear. Both discs were swollen, the right being more so than the left. Temp. 102°. (For temperatures see chart on opposite page.)

August 16.—I was asked by Dr. Perry to see the boy. I found the membrana tympani practically absent, the wall of the tympanum carious, and there was no obstacle to the free escape of pus. The mastoid process was painful on pressure. There was no fulness nor tenderness in the course of the internal jugular vein. The mastoid cells were freely opened up with a gouge, but they contained no pus.

August 17.—Child seemed much better in the morning,

Temp. 98·4° at 2 A.M., 97·8° at 6 A.M., 98° at 10 A.M., and 98° at 2 P.M. Towards evening he relapsed into his dull stupid condition. At 6 P.M. he had a rigor, the temperature running up to 104·6°; at 10 P.M. temp. 98·4°.



August 18.—Temp. 96·4° at 2 A.M. At 5 A.M. he had another rigor. We now determined to proceed further with the exploration, and in consequence I opened up the deepest portion of the mastoid cells, and in those cells immediately adjacent to the lateral sinus found a small collection of extremely offensive pus, which was continuous with an accumulation of pus occupying the groove for the lateral sinus, the outer wall of which was sloughy, foul smelling, and readily removable with the director. The sinus itself was filled with the same fœtid contents, and this material extended for some distance upwards and downwards. This was all carefully removed from the sinus in both directions till quite healthy (or apparently such) clot was obtained, and in order to permit of the more thorough removal of the septic material from the lower part of the sinus without the escape

of blood from it and to prevent any risk of injecting the antiseptic solution into the circulation, as well as to obviate the passage of septic material through the same channel, the internal jugular vein was ligatured below the thrombus. A drainage-tube was introduced into the sinus, through which it was irrigated once or twice daily. It was many days before the discharge from the sinus became sweet. He was ordered Warburg's tincture ℥ss. every four hours.

After the operation the boy improved rapidly. He at once lost his drowiness, headache, and sickness, while his temperature rarely exceeded 100°. The temperature chart gives a representation of his temperature during the earlier part of his illness in the hospital. He left on October 3, 1888, and his condition is still most satisfactory.

Case 5. (Abstract from report by Mr. C. G. Roberts).—W. S., æt. 7 years 9 months, was admitted under my care on December 24, 1888. When three and a half years old he was attacked for the first time with pain in the right ear and offensive discharge. Since that time he has suffered from similar attacks at intervals of a few months, and they have lately increased in severity.

On December 17, 1888, he was attacked with pain in the right ear, and with headache. He was sick after his dinner.

On December 22 he was very feverish and was sick.

On December 23 he was very ill and had two rigors. He vomited three times.

On the 24th he had two rigors in the morning, one at 7 and one at 11. He was admitted at 12 o'clock. The boy was apparently very ill and drowsy. He complained of headache limited to the right side of the head, and of tenderness about the mastoid process, below which there was some fulness. Temp. 104°. Both discs, and especially the left, were much blurred, though they were not prominent. Though the history was strongly suggestive of pyæmia, the presence of the local tenderness and headache and the optic neuritis, together with the fact that it apparently differed from the preceding case only in the degree of swelling of the disc, determined me on operating without a moment's delay. I may mention that the thoracic and abdominal organs were apparently healthy. On opening up the mastoid process very freely with a gouge, pus of a most offensive character welled up in abundance from its spaces. The lateral sinus was exposed in a considerable portion of its course. Its outer

surface was bathed in pus which had escaped through a perforation in the deep aspect of the mastoid process. Though there was some lymph deposited upon the sinus, its wall was firm and intact, and the most careful examination could not detect any thrombosis of its contents. The mastoid vein bled freely when the bone through which it passed was cut away. There was a considerable collection of pus beneath the sterno-mastoid. This had escaped through a perforation in the lower surface of the mastoid process.

The temporo-sphenoidal lobe and both surfaces of the petrous bone were examined and were found to be healthy.

Though I had found quite enough mischief to account for the headache, optic neuritis, and tenderness about the mastoid process, I feared that there was little doubt that the child had pyæmia, and the subsequent history of the case showed that those fears were only too well founded. (See chart on p. 264.)

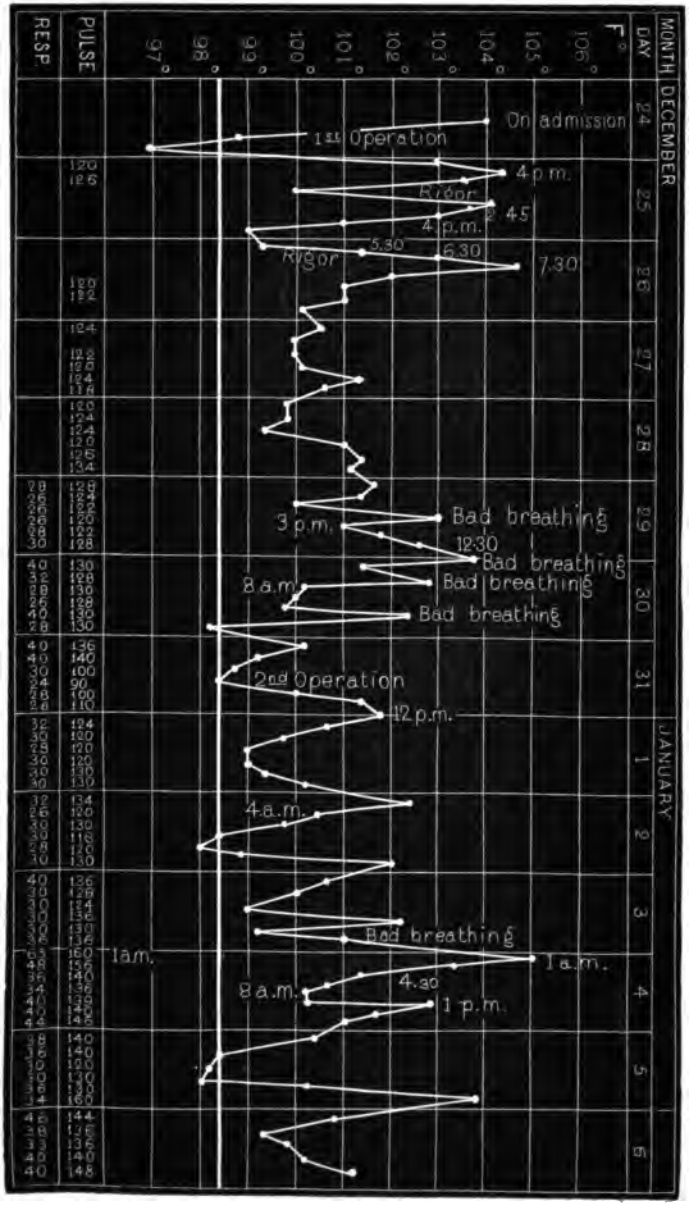
On December 25 the headache had completely disappeared. The child had two rigors and complained of pain in the abdomen. The motions were loose and very offensive and continued to be so.

On December 26 he had another rigor.

For two days he became more comfortable and complained of nothing but griping pain in the abdomen. The neuritis cleared up rapidly. The temperature also remained moderately low, but on the 29th or 30th his temperature ran up frequently, and each rise was associated with an attack of very rapid breathing. The breath-sounds in the right base became deficient and the resonance over the same area diminished.

As there was some slight fulness below the original position of the mastoid process, which I had completely removed at the first operation, the boy was again examined under chloroform on December 31. A small abscess which existed about the internal jugular vein and internal carotid artery was opened. It seemed to have resulted from the drainage of pus along the groove for the lateral sinus and its escape from the jugular foramen. The lateral sinus was again very carefully examined and was found to be free from thrombus.

The child was not benefited by the operation, the pyæmic symptoms continuing as before. By January 4 the right lung was dull up to the lower angle of the scapula. Aspiration with a morphia needle yielded blood. Dr Perry kindly saw the child with me at this date.


RESP.
PULSE
F°
97°
98°
99°
100°
101°
102°
103°
104°
105°
106°
DAY
MONTH DECEMBER
JANUARY
On admission
1st Operation
4 p.m.
Rigor
2.45
4 p.m.
5.30
Rigor
6.30
7.30
3 p.m.
Bad breathing
12.30
Bad breathing
8 a.m.
Bad breathing
Bad breathing
2nd Operation
12 p.m.
4 a.m.
Bad breathing
1 a.m.
1 a.m.
8 a.m.
4.30
1 p.m.

He suggested that the dull area should be examined with the needle at intervals. The boy got rapidly worse and died on January 6. The necropsy showed multiple abscesses in both lungs, and especially in the right. There was no thrombosis of the lateral sinus, and the brain was quite healthy.

I do not think that it is necessary for me to add anything to these brief descriptions, as the facts speak for themselves and bear out the few remarks made at the commencement of the paper.

XLII.—*A case of Leontiasis Ossea of Maxillæ.* By J. Bland Sutton. *Read April* 26, 1889.

IN the spring of 1888 Henry —, æt. 24, was admitted into Charing Cross Hospital suffering from an exostosis on each side of the nose; the right lower jaw was also enlarged. The exostoses produced considerable disfigurement and impaired the breathing, inasmuch as the nares were obstructed by the bony protuberances. Whilst in the hospital the exostoses were explored, but as it was difficult to determine the limits of the tumour the prominent portions were removed by means of a chisel and mallet, and the wounds closed.

In September of the same year this patient came under my care in the Middlesex Hospital.

The following notes were taken:—The patient is five feet high and his body appears as though stunted by rickets. Five years ago a swelling appeared in the neighbourhood of the nose without any known cause. Two months later similar swellings were noticed in connection with the vertical portion of the lower jaw of the right side. During the succeeding years these swellings slowly increased in size without causing him pain, but inconvenienced him by blocking up the nostrils; gradually the face became deformed by the projecting masses on each side of the nose, for which he had sought relief at Charing Cross Hospital.

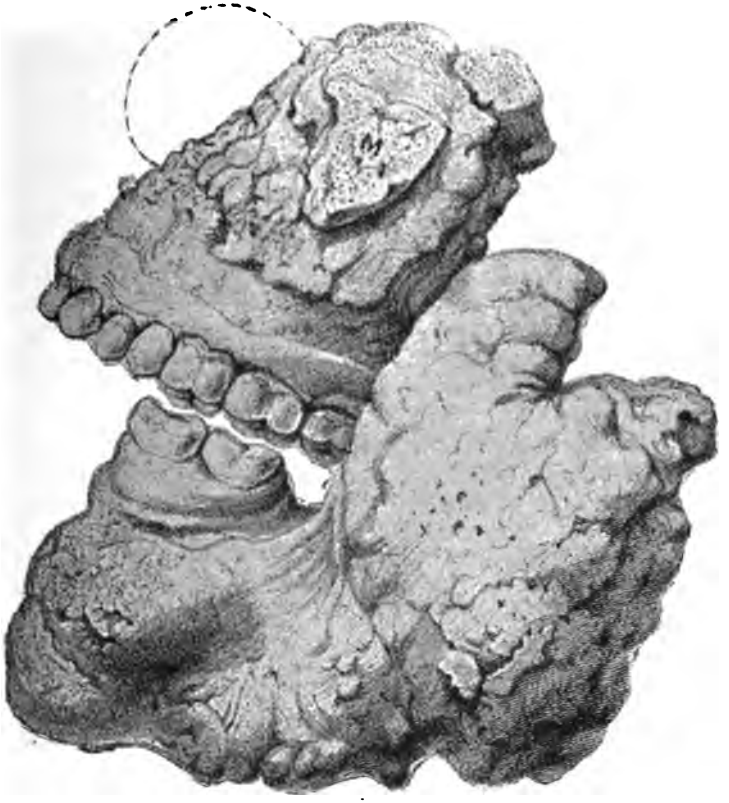
When he came under my care he was anxious concerning the lower jaw, for of late the swelling on the right side had increased somewhat rapidly.

On October 3, I explored the parts with the view of ascertaining the nature of the tumour, and if possible to remove it, failing this to excise one half the jaw. A glance at the specimen represented in Fig. 23 will show that excision of the jaw was the only course left to me; this was accomplished, all that portion posterior to the second bicuspid on the right side being removed subperiosteally. The parts were adjusted in the usual way, no dressing or irritating antiseptic solutions were employed and the parts united by first intention.

A cursory glance at the specimen shows it to be, not an osteoma, but a general enlargement or "hyperostosis," and I

at once came to the conclusion that I had to deal with a case belonging to the group leontiasis ossea.

Fig. 23.



The upper and lower jaw of Henry —. The dotted line indicates the exostosis removed at Charing Cross. M. Surface for articulation with the malar.

My patient was so satisfied with the result of the operation that he was anxious for the removal of the right upper jaw; for this there was some reason, especially as the right nostril was completely obstructed, a small amount of proptosis in the right eye, epiphora and impairment of vision. The visual defects were investigated by my colleague Mr. Lang, who reported the movements of the eyes to be perfect, no diplopia,

complete white atrophy of the right disc, the vessels being large: R. V. $\frac{6}{36}$ J. 16. In the left eye the disc was very pale, the vessels normal in size, few small vessels, no capillaries. V. $\frac{6}{9}$ J. 1. The pupils react very slightly to light, not well on convergence.

It seemed to me probable that in consequence of the enlargement of the maxilla the orbit was encroached upon, and possibly the optic nerve compressed by it. Therefore, with the hope of relieving this pressure, removing the nasal obstruction, and saving the patient much suffering from the proptosis, I removed the upper jaw, October 20. The operation was accomplished easily and the patient made a rapid convalescence. The proptosis disappeared, and notwithstanding this extensive mutilation there is no paralysis of any kind.

An examination of the bone shows that the changes are similar to those seen in the lower jaw; the antrum is obliterated and the thickening involves all parts of the bone alike.

I was hopeful that my patient would retain what little vision he had in the right eye, but a re-examination shows that the limitation of the field of vision is more marked than before the operation. This convinces me that the bones in the skull base are affected in the same way as those of the face, and that the optic nerves are undergoing slow compression in their passage through the sphenoid bone.

Although one of the main objects for which the upper jaw was removed has not been met, nevertheless the freedom with which the patient breathes, the discomfort he was likely to suffer from severe proptosis and the hideous appearance he would sooner or later have presented, justifies, or more than justifies, the operation.

XLIII.—*A case of Closure of the Jaws from bilateral ankylosis, treated successfully by excision of both angles of the inferior maxilla, after the complete failure of other methods.* By WILLIAM H. BENNETT. *Read May* 10, 1889.

APART from the fact that closure of the jaws from complete bilateral ankylosis is, although perhaps not exactly rare, certainly unusual, the following case appears of more than ordinary interest on account of (1) its obstinate nature, and (2) the treatment ultimately adopted with success.

Wm. W., a waiter, æt. 28, was admitted into St. George's Hospital under my care on November 21, 1888, complaining that his jaws were locked.

He stated that he was strong and healthy up till the year 1881, when he had acute rheumatic fever, which left him continually subject to attacks of rheumatic pain, in various parts of his body and limbs.

About three years prior to my seeing him, the patient, after having gone to bed fairly well, awoke on the following morning to find that he could not open his jaws, which in spite of medical treatment remained permanently closed.

A year later he went into Guy's Hospital and was there three times operated on by Mr. Howse, to whom I am indebted for the following particulars concerning the operations performed by him. In the first operation the neck and condyle of the lower jaw on the left side were removed, the ankylosis being so firm that the parts excised had to be chiselled away piece by piece.

After an interval of eleven days the neck and condyle on the right side were removed with the saw.

For a fortnight after the second operation there was mobility in the jaw, but it then rapidly became again fixed in spite of all attempts to prevent consolidation. Five weeks after the second operation, Mr. Howse removed from the left ramus a further piece of bone about one inch in width which was "universally thickened and hard from new sclerosed bone which had grown on it." Again, in spite of every effort to prevent it, ankylosis followed.

Subsequently the patient went to Bath and Droitwich,

where he derived much benefit so far as his general rheumatism was concerned, but the jaw remained quite rigid.

When admitted into St. George's the man was thin and unhealthy looking, his joints were creaky and his gait was stiff. The speech was indistinct and hissing. There was complete and rigid closure of the jaws, no movement of any kind being possible. The line of the lower teeth was slightly posterior to that of the upper. On each side of the face, over the lower jaw, just below the level of the tragus, was a horizontal scar, and on the left side, about half an inch farther down, was a third scar, very painful to the touch, below which was a rounded swelling, said to become full and painful when nourishment was taken, suggesting the possibility of its being a portion of the parotid gland.

On December 6 I exposed, through a small crescentic incision, the right angle of the inferior maxilla and resected the whole of it, the anterior line of section commencing just behind the last molar tooth. Great care was taken to separate all fibres of the masseter and internal pterygoid from the maxilla in front of the resected part.

The division of the bone was effected by first deeply grooving it with a saw at the anterior and posterior margin of the part to be removed, and then rapidly completing the section with cutting forceps. The bleeding was trivial and ceased spontaneously. No movement of any kind was obtained by this proceeding, the ankylosis on both sides being complete. The wound having healed by first intention, I exposed and removed in the same manner, after an interval of seven days (December 13), the opposite angle.

Immediately upon the complete division of the bone in my second operation the centre part of the jaw dropped loosely downwards, but was easily supported and retained in its natural position by means of a bandage. As was anticipated, complete loss of the power of swallowing followed upon the last operation from the inability of the supra-hyoid muscles to act, in consequence of the loss, for the time being, of their *point d'appui* on the inferior maxilla.

For two days therefore the patient was fed through a soft tube passed into the pharynx. At the end of that time, however, the second wound having healed by first intention, the jaw was supported by means of an india-rubber sling passing under the chin from the vertex of the skull. The support thus afforded enabled the supra-hyoid muscles to act, although with difficulty, and swallowing of small quantities of liquid

food could be with care accomplished. No voluntary movement of the detached portion of the jaw could be effected by the patient until December 20 (seven days after the last operation) when, with great difficulty, very slight vertical movement was possible.

The range of voluntary motion rapidly increased, the elastic support afforded by the india-rubber sling being of great assistance in the upward action.

By December 24 the patient could approximate the upper and lower teeth with an interval in front of half an inch, the complete apposition being prevented by the too early contact of the molars behind. Passive motion was frequently and freely practised, and by degrees more strength was gained by the muscles, a free range of vertical movement being obtained.

By January 20, 1889, solid food (minced) could be comfortably swallowed, and on the 25th he began to attempt to chew soft meat. Steady improvement continued and no apparent attempt at ossification took place.

On February 15 (nine weeks after the last operation) the condition is described to be as follows:

"In the situations of the angles of the lower jaw two fairly supple false joints appear to have formed, the central portion of the bone having fallen back about one eighth of an inch, certainly not more, as the result of my two operations. The mouth can be opened freely, an interval of 1¼ inches between the teeth being easily attainable by voluntary movement. The jaws can be closed quickly with a sharp snap caused by the coming together of the molar teeth; the incisors, however, cannot be made to meet accurately, partly because the line of the lower teeth is rather behind that of the upper, and partly in consequence of the too early apposition of the posterior molars.

"The biting strength is considerable, but of course no voluntary lateral movement is possible. The patient, however, has been taught to impart, by grasping the chin with the hand, some amount of grinding motion to the lower teeth, and thus obtains a very considerable power of mastication, although he is at present unable to eat hard meat with anything like comfort."

At the present time (May 10, 1889), as will be seen by an examination of the patient whom I show to the members of the Society, the condition is as follows:—No attempt at ossification has taken place in the false joints, the movements of the jaw being perfectly free.

The greatest width between the upper and lower teeth obtainable by voluntary effort is 1½ inches; the lateral movement procurable by working the jaw from side to side

FIG. 24.

This drawing shows the range of movement five months after operation (from a photograph).

with the hand grasping the chin, is represented by a range of five sixteenths of an inch, *i. e.* exactly half the average normal extent of motion. This lateral movement is utilised to a considerable degree in food grinding.

All passive motion has been discontinued for two months, partly on account of severe subacute rheumatism from which the man has been suffering during that period, and which has given rise to much general pain and stiffness. Although under these circumstances the movements of the jaw have been at times painful, and the parts in the vicinity of the operation tender, no indication of rigidity has shown itself. It is therefore, I believe, fair to assume that the extremely satisfactory result obtained, thus far, will be permanent.

Remarks.—That the case now recorded was one of more than usual difficulty is clear from the entire failure of the treatment pursued before the patient came under my care,

the thoroughness of which is sufficiently guaranteed by the name of the surgeon who operated on the first three occasions. The ankylosis appears to have been excessive, and the tendency to ossification remarkable. The success of the treatment finally adopted seems to be due partly to the seat of the operation in each instance being as far removed as possible from the temporo-maxillary articulation, the original centre of the abnormal ossification, but more particularly to the fact that by the excision of the angles of the jaw in the way described, it was easy to be sure that the masseter and internal pterygoid muscles should be permanently separated from the central part of the bone, a matter of some importance, in my opinion, since it is obvious that if these muscles be left in any way attached to the lower part of the jaw, after its division, they will tend, no matter how large a piece of bone may be excised, to elevate the lower fragment and approximate the cut surfaces, so inclining, in spite of passive motion, to the direct production of osseous union in cases in which the tendency to bone formation is at all excessive, a circumstance which is, I believe, sufficient to account for the difficulties, not infrequently met with, in attempts to produce false joints in the lower jaw by operations limited to the portion of that bone situated above the angle.

Addendum (July 13, 1889).—The patient was again seen on July 13, 1889. The movements of the jaw were then perfectly free, no tendency to rigidity having developed, whilst the biting power had considerably increased.

XLIV.—*A case of Supra-pubic Prostatectomy.* By G. Buckston Browne. *Read May* 10, 1889.

HYPERTROPHY of the prostate is mainly of importance in proportion to its interference with normal micturition. The form of hypertrophy which usually causes micturition troubles is that which is chiefly intravesical. The intravesical growth may be egg-like, with the urethral orifice at the apex of the egg, or the egg-like projection may be deficient at any part of the urethral circumference. When wanting superiorly and laterally we have the so-called middle lobe enlargement with which all are so familiar, where from below the urethral orifice there is a projecting prostatic mass acting like a bullet valve and often causing the bladder to be entirely dependent upon the use of a catheter for the voidance of its urine. And not only this, but in rare cases this intravesical outgrowth may be so large as to act as a foreign body, causing constant desire to pass water, and adding terribly to the trials of an elderly man already obliged to pass all his urine by catheter.

The removal of intravesical prostatic hypertrophies by operation has naturally exercised the minds of surgeons.

Dr. Mercier, of Paris, advocated incision and excision through the natural passages, and others have practised operations through the perineum, but all these operations have failed to commend themselves to the minds of the majority of practical men.

The improvements, however, which of late years have been made in the operation of supra-pubic cystotomy, amongst many other matters, have affected the surgery of the hypertrophied prostate, and in March, 1887, Mr. McGill, of Leeds, while performing supra-pubic lithotomy, found the vesical urethral orifice at the apex of a prostatic projection as large as a walnut. He removed this projection successfully, and read the case with two others before this Society on November 11, 1887. Since then Mr. Mayo Robson has published two cases of supra-pubic lithotomy in both of which he removed projecting prostatic tissue. In all these five cases the patients are reported as having recovered with perfect and complete natural power of micturition.

All surgeons know too well how miser
of patients afflicted with "advanced prost
catheter fails to give relief from severe p
brief period of time, and the patient liv
catheter. I have for some time felt
condition is not caused only by cystiti
result of a large intra-vesical prostatic
supra-pubic prostatectomy might be per
the removal of an intensely worrying
restoration of the power of natural mic
not until last March that I had an opport
views into practice.

I first saw the Rev. R. J. early in
aged 83, and was suffering from prostat
There had been difficulty in introducin
obstruction being met with in the nec
found that a well-curved instrument wa
a few weeks' close attention I was able
pass the catheter, and my attendance up
It is noted in my case-book at this ti
was felt by rectum to be only moderate
the years 1885, 1886, and 1887, I saw
then in consultation with Dr. Andrew
Street, who had become his regular
ference to my notes I find that during
the bladder for stone three times, which
more or less constant irritation, the exa
not clear to my mind. It is recorded t
about, rode in omnibuses and cabs wit
all his urine by catheter every three, f
that occasionally he had painful spasn
latter symptom being evidently the
soundings.

During 1888 I did not see the pati
to have been no need for consultatio
On March 9, Dr. Andrew Miller agai
patient. He was now 87 years old,
extreme irritation of the bladder.

Catheterism was imperatively call
and day, the urine was loaded wit
morphia was used freely the patien
from vesical spasm were heartrendi
we agreed to open the bladder supra-
and drainage, and the operation was

morning, but as we left the room the patient called us back, and notwithstanding his age and the nature of the operation, which he fully understood, he begged that the operation should take place at once, showing clearly that he could not longer endure his agony. Accordingly at 9 P.M., Mr. Charles Moss administered ether, and, assisted by Dr. Andrew Miller, I opened the bladder above the pubes. On entering the bladder the cause of the patient's sufferings was at once apparent: not a particle of calculous matter was to be found, but growing from below and from the right side of the vesical urethral orifice was an enormous prostatic outgrowth; the base was broad, the tumour itself smooth and firm, and it apparently filled the bladder. For a moment I hesitated whether to remove the growth or to be content with simple drainage, but it was evident that no relief would be obtained as long as the bladder contained what was practically a large foreign body, and the removal of the growth was therefore proceeded with. This was accomplished piecemeal, by means of finger and forceps, the only difficulty being in getting the first piece away, for directly the prostatic envelope was broken into, the remaining portions were easily seized and twisted off; they were lobulated and not unlike pieces of pancreas, only harder. Every portion when seized was removed by torsion; nothing was pulled or torn away, and in consequence there was very little bleeding. The whole of the gland removed weighed nearly four ounces. When all was cleared away the urethral orifice was level with the adjoining vesical surface, and its upper and left portions intact.

Mr. Charles Stonham has kindly examined the growth, and reports that the stroma consists of fibrous and involuntary muscular tissues. The vessels are few in number and not of large size. A prominent feature of the growth is minute spaces (just visible to the naked eye), lined with short columnar epithelium arranged in multiple layers, and in some instances completely filling the spaces. In some of these cystic spaces there are small ingrowths of the wall. In some cases these are, however, only the remains of septa between adjacent cysts.

The operation was followed by very little constitutional disturbance, and by complete vesical relief. The bowels acted freely on the fifth day, and on the sixteenth day the patient sat up. He was fitted with a supra-pubic plate and tube such as I described and figured in the *British Medical Journal*, August 4, 1888, which has answered well in this case, and in

fact has not required alteration in any way since its publication. A catheter passes easily into the blader by the natural passage.

The patient is able to dress and walk about and is at present so comfortable, nine weeks after the operation, that we do not consider it well to make any change. Should his life, however, soon bid fair to be reasonably prolonged I intend to allow the supra-pubic opening to close, and it will be seen whether after four years of constant and regular catheterism, followed by the removal of the prostatic obstruction, the bladder is able to void its contents by its own efforts, or whether catheterism has again to be resorted to, a matter of the very greatest importance. As the case stands it is of interest, because I am not aware that such a mass of prostatic tissue had been removed before, and also on account of the great age of the patient, the severity of his sufferings, and the immense relief afforded by the comparatively recent surgical innovation.

XLV.—*A Case of Supra-pubic Cystotomy for tumour of bladder.* Sequel to a report published in vol. xviii, p. 313, of the Society's *Transactions.* By William Anderson. *Read May* 10, 1889.

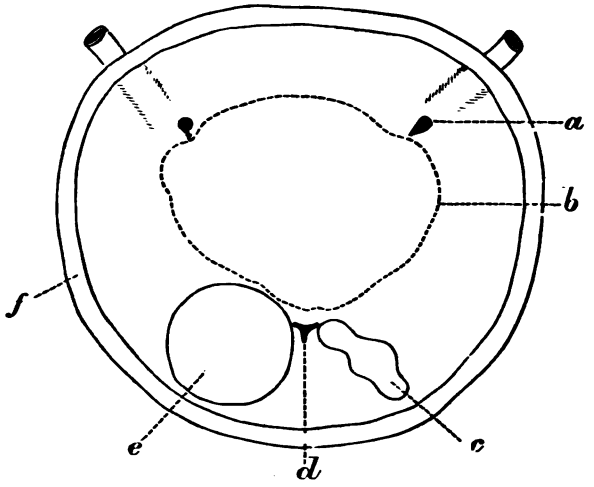
JAMES S., æt. 53, a caretaker, was operated upon in August, 1884, for villous tumour of the bladder, the symptoms of which had existed for twelve years. The growth was removed by the perineal route, and was found to be a large villous fibro-papilloma occupying the whole of the trigone. A good recovery followed, the hæmaturia and cystitis disappeared, and the general health, according to the patient's statement, became better than it had been at any time during the previous ten years. After the man left the hospital a tinge of blood was occasionally found in the urine, but it was unassociated with constitutional impairment, and showed no tendency to increase during the next three years. In the early part of 1888 the attacks of cystitis returned, and the hæmaturia became more marked, but it was not until July that the symptoms attained any gravity.

He was then re-admitted into the hospital, and the interior of the bladder was examined by means of Leiter's cystoscope, with the result that a single small tumour, sessile, and of lobulated form, was seen on the left side and a little in front of the internal urinary meatus. No other growth could be detected, but as the symptoms were daily increasing in severity, a second operation was recommended.

Supra-pubic cystotomy was performed on July 14. After injection of the rectum and bladder, the latter viscus was exposed by the usual parietal incision. The peritoneal fold was not seen. The bladder was incised, and on introducing the finger a soft papillomatous elevation, about half an inch in its long diameter, was found in the situation indicated by the cystoscopic examination, and in addition a firm, somewhat elastic growth, about the size of a large cherry, could be felt on the right side of the base of the prostate, projecting to a small extent as a smooth, rounded eminence, into the cavity of the bladder. The rest of the surface of the mucous membrane was then examined with the aid of a vaginal speculum, and was found healthy, the site of the

primary growth presenting also a perfectly normal aspect, without puckering or cicatrices. The relations of the two tumours to the urinary orifices are shown in the accompanying diagram.

FIG. 25.



a. Orifice of ureter.
b. Outline indicating area attacked by original growth.
c. Soft papilloma.
d. Internal urinary meatus.
e. Outline of intravesical portion of infiltrating tumour.
f. Wall of bladder.

The papilloma was grasped with a pair of broad forceps and twisted off at its base, and the prostatic tumour was shelled out as completely as possible by means of the finger-nail and a curette. The latter growth proved to be a fleshy, somewhat friable vascular mass embedded in the prostatic structure and differing completely in character from the papilloma. The bleeding was moderate in amount and soon ceased. A large elastic catheter was passed into the bladder through the wound, the surgical opening contracting firmly around it, and a tube attached to its free extremity was placed syphon-wise in a vessel containing a solution of carbolic acid. The parietal incision was closed as far as possible and a dressing of iodoform gauze and salicylic wool was applied over it, tightly embracing the catheter and extending for some distance over the adjacent surface. By this plan the asepti-

city of the supra-pubic wound was preserved, and the bladder drainage remained perfect throughout.

Recovery was rapid. There was no perceptible shock, the temperature did not rise beyond 99°, and the patient suffered no pain or inconvenience. The urine, which escaped freely by the tube, was ropy and blood-stained for three or four days, and then became clear. On the tenth day a portion of the secretion passed by the normal passage, and the supra-pubic catheter was removed. The wound, which had presented a healthy aspect from the first, closed on the seventeenth day, and the man was made an out-patient on August 8.

The prostatic growth was examined by Mr. Shattock, who found infiltration of the fibrous and muscular elements of the affected tissues with groups of epithelial cells. There were no cell-nests, but the characters were undoubtedly those of carcinoma. The papilloma was unfortunately lost before any sections had been made, but there was nothing in the naked-eye appearances to indicate malignancy. It differed, however, from the original growth in its low, slightly lobulated outline, and in the absence of any fringe-like processes.

The nature of the tumour allowed small hope of a lasting relief. Two months later, the hæmaturia reappeared, and a month afterwards a hard tumour showed itself in the situation of the supra-pubic cicatrix. In December the integuments over the hypogastrium became infiltrated with a cancerous mass, and it was evident that the neoplasm had extended from the bladder along the track of the operation wound. The general health was now failing fast, but there was still an absence of pain, and the urine was voided by the natural passage without inconvenience. Death occurred from exhaustion on February 6, seven months after the second operation, the patient remaining free from suffering to the last. Unfortunately no post-mortem examination could be obtained.

The case is a good illustration of the retrogression of type frequently manifested by certain neoplasms, and perhaps more especially by those of the bladder, either in the course of their development or upon recurrence after removal by operation. The original tumour had been growing for at least twelve years before surgical interference became necessary, and the removal was so far successful that no return took place at the seat of the primary growth, but between three and four years later the tendency to tumour formation in the vesical wall was

again displayed, and this time in the genesis of a carcinoma, which, acting after the manner of its kind, destroyed the life of the patient.

From the surgical aspect the case may be regarded as satisfactory. The patient when first admitted into the hospital was sinking rapidly from cystitis and hæmaturia, and the perineal operation gave him nearly four years of health and freedom from pain. Even the second operation afforded marked relief to the recurrent symptoms, and although the respite from the local disease was brief, the patient was delivered from suffering during the remainder of his days. It is probable that the extension of the cancerous infiltration along the course of the operation wound was useful in saving the vesical cavity from the encroachments that the growth might otherwise have made upon it.

In most cases I should prefer to suture the bladder wound immediately, with a view to lessen the risk of infiltration of the prevesical space with urine and other matters from the viscus, but in the present instance I decided to drain the bladder by the surgical opening instead of by the urethra, on account of the injury inflicted by the removal of the tumour upon the parts immediately around the internal meatus. It may be noted that, although the vesical incision was of considerable extent, its edges closed tightly around the catheter passed through it, and effectually excluded the urine from the fascial interspaces of the pelvis.

The case is a favorable one for a comparison of the two methods of removal of bladder tumours, as both operations were performed under very similar conditions. It must be admitted that not only did the high incision give far greater facility for examination and manipulation, but the after progress was more satisfactory than in the procedure by the perineal route. At the time of my first report the statistics of supra-pubic cystotomy were very scanty, and, so far as they went, compared unfavorably with those of the boutonnière plan, but as the details of the high operation have become perfected the risks have diminished. Even yet they cannot well be estimated statistically; there is, however, little doubt that in a short time they will be reduced to a very small percentage. The value of the two operations for purposes of diagnostic exploration need scarcely be discussed, since the cystoscope has now provided a means with which we have every reason to be content.

XLVI.—*A case of Intussusception of the Small Intestine.* By G. H. Makins. *Read May* 10, 1889.

V. W., æt. 4, female, was admitted into the Evelina Hospital for Sick Children under the care of Dr. Goodhart, on November 9, 1888.

The child was then suffering from whooping-cough and broncho-pneumonia. She progressed favorably until December 1, when she complained of pain in her stomach, and was slightly sick at times. Between the acts of vomiting she retched continually. The last motion had been passed on November 28.

The sickness and retching continued, the child lying on her back with the legs drawn up, and on December 2 chloroform was administered and the abdomen thoroughly examined. The area around the umbilicus was dull on percussion; a tubular percussion note was elicited over the symphisis pubis. A tumour, limited to the umbilical region, apparently consisting of several small rounded masses, and which could be grasped through the abdominal wall, was discovered. Its lower limit corresponded to the sacro-vertebral angle. It felt semi-elastic, and was unlike an intussusception in outline; it gave rather the impression of consisting of a mass of mesenteric glands. Examination per rectum revealed nothing but a few isolated glands in the lower iliac and hypogastric regions. There was no marked distension of the abdomen. The child was ordered Dover's powder, grs. iij every second hour.

Midnight: The tumour is visible on inspection of the abdomen. It is tender, and the child complains of local pain in its vicinity. She lies on her back with the legs drawn up, the abdominal wall moving freely with respiration. No movements of the intestine are visible above the tumour. The face and extremities are pale and cold. The child is restless, asks for milk, and moans with the pain, which apparently comes on in paroxysms. Pulse small and weak. A loose normal motion was passed after the rectal examination, but there has been no passage of blood or mucus.

December 3.—General condition worse; pulse very weak and rapid. The vomiting continued, and in the afternoon Dr. Goodhart asked me to see the case with a view to abdominal exploration.

Chloroform was administered, and an incision one inch in length was carried through the abdominal wall just below the umbilicus. An intussusception was at once felt, and attempts were made to reduce it by gentle pressure from below. Under this treatment the tumour receded towards the right hypochondrium, and for some minutes I was under the impression I was reducing it. I found, however, I was only shifting the tumour *en masse*, so the incision was lengthened and the tumour drawn out. A few minutes' examination showed that any further attempt at reduction was useless, and it was determined to remove it, bringing the two ends of the ileum up to the opening in the abdominal wall. This was done as rapidly as possible, a large quantity of fluid fæces being let out of the upper end of the bowel, the abdominal cavity washed out with water at 100° F., and the intestine fixed, the temporary ligature closing the lumen of the distal end of the bowel being left on. The child's condition was very bad, and she died of collapse about two hours after the operation, which lasted rather more than one hour.

On removal the intussusception formed a tumour about 4½ inches in length, curved with the concavity towards the mesenteric border. The serous coat in apposition was so firmly adherent as to be with difficulty separated, even when the bowel was opened longitudinally; the coats, moreover, were deeply congested, and so much extravasation had taken place into them as to give the whole tumour the aspect of a tough blood-clot. Nothing in the way of a polypus could be discovered.

At the post mortem it was found that the intussusception occupied the ileum about a foot above the ileo-colic valve. There was no other intussusception, and the great intestine was normal. The child was the subject of chronic tuberculosis.

I have ventured to bring this case under the notice of the Society, although it is neither a very uncommon or a highly successful one, partly to remark on the special character of the symptoms, and also to raise the question of the best treatment for such cases.

First of all I would mention the absence of tenesmus or the passage of blood or mucus, although a normal evacuation took place. Considering the position of the invagination this is only what should perhaps be expected, but it is a point on which the text-books say little, in spite of its apparent diagnostic importance.

Secondly, a point of great importance prognostically, was

the firmness of the adhesion between the peritoneal surfaces of the tumour, in spite of the operation being performed about forty-eight hours after the commencement of the attack. Mr. Treves* says that adhesion does not commonly take place before the third day. It would, however, seem natural that in the case of the small intestine, if adhesions should form, that the comparatively flat surfaces apposed would adhere more tightly than in that of the large intestine, the sacculated surface of which would at any rate at first only allow of an interrupted union. Mr. Morris has alluded also to the tightness of invaginations in this position, and the consequent unlikelihood of spontaneous cure by separation.

Lastly I would advert to the question of treatment. In this case the rule often previously adopted was adhered to, a considerable amount of time being spent in the attempt to reduce the invagination, an artificial anus being established only as a last resource.

The suggestion which I wish to make is that a very short time should be spent in the attempt to reduce the invagination, and should this fail, that the tumour, if of moderate extent, be at once excised and an artificial anus be established. Such an operation might be concluded in little more than half an hour if the bowel were ligatured above and below the invagination, and the latter excised. The tied-up ends of the bowel should then be brought up to the wound and sutured in position, the proximal portion being fastened to the abdominal wall, so as to allow the tied end to project some three quarters of an inch. When all has been made fast, a longitudinal incision may be made into the proximal portion to allow the escape of gas and intestinal contents. The ligatures may be left to separate, or cut away from the gut in two or three days. The great advantage of using them would be saving of time and avoidance of trouble with hæmorrhage or the escape of fæces into the peritoneal cavity.

My reason for proposing this earlier resection is the very unsuccessful results I have witnessed after the operation of reduction.

Some successful cases have been recorded, but they have been so rare that although the operation has been in vogue some sixteen years at least, the names of those whose patients have recovered are as household words to anyone who looks up this subject.

Mr. Barker collected seventy-three cases last year, with

* *Intestinal Obstruction*, p. 188.

thirteen successes, but I believe this in no way represents the actual proportion of cures and failures. I alone could add eight cases, operated on during the past eight years at St. Thomas's Hospital, which would reduce the percentage of cures 1 per cent., and I believe a general collection of the cases operated on in the London hospitals would reduce the percentage of cures in the same proportion.

The prolonged nature of the operation is no doubt the immediate cause of death in most instances, but reduction is necessarily difficult in the majority of cases in which manipulation and inflation or injection has failed, even where the abdomen is opened, for the mode of reduction from below closely resembles the mechanical action obtained by inflation; moreover, if after prolonged efforts the invagination is reduced, the bowel is in a condition likely to be followed by paralysis accompanied by continued symptoms of obstruction, or the invagination may recur at once, as has been recorded in some cases after operation and repeatedly noticed after reduction by inflation.

A successful case of resection for an ileo-colic intussusception in a male, aged 25, by Vasilieff, is reported in the *British Medical Journal* of July 21, 1888, p. 137. Seven inches of bowel were resected, and an artificial anus established. For the cure of the latter, resection was performed in the sixth week, and although this operation and three subsequent attempts at suture failed, the fistula ultimately closed completely.

XLVII.—*Case of Transverse Fracture of Patella treated by a new method, by which bony union is secured without opening the joint.* By A. W. Mayo Robson. *Read May* 24, 1889.

THE numerous methods advocated for the treatment of transverse fracture of the patella, go far to prove that there is no single mode of treatment which is so eminently satisfactory as to stand above the rest, and, at best, a fibrous or ligamentous union only is obtained.

But to this statement an exception must be made in the case of primary suture, advocated by Sir Joseph Lister, which does secure satisfactory bony union; but although in the cases I have treated by opening the joint and wiring the fragments I have had no accident or failure, I have never deluded myself into the belief, or led my patients to think, that primary suture is entirely devoid of risk; and, as is well known, loss of limb as well as loss of life have resulted from this heroic treatment, even in skilled hands.

Last year a plan occurred to me of bringing the fragments into apposition without opening the joint, and in January I had the opportunity of carrying my idea into practice. The patient I have shown to the Society this evening is the second case I have thus treated.

Mrs. H., æt. 27, was descending some steps, when she slipped and fell with the left leg under her. Although she did not hit the knee, she felt something snap, and then found that she could not walk.

On admission to the infirmary, the left knee was filled with fluid and the patella was found to be transversely fractured near its centre, the fragments being two inches apart.

Within four hours of the accident the patient was anæsthetised and the skin thoroughly cleansed with soap and water, rubbed with benzole, and lastly well sponged with carbolic solution. The joint was then aspirated, serous fluid mixed with blood being withdrawn. Two long steel pins with glass heads, as used by ladies to fasten on their bonnets, and kindly furnished me by the sister in charge of the operating theatre, were then thoroughly purified and used as follows:—The skin over the upper fragment being first drawn upwards,

a pin was pushed from without inwards, through the quadriceps tendon immediately above the upper fragment, and made to project on the opposite side of the knee at a point corresponding to the site of entry. Another pin was in like manner pushed through the upper end of the ligamentum patella, just below the lower fragment. Gentle traction on the pins quite easily brought the fractured surfaces of the patellæ into contact, and a figure-of-8 suture of asepticised silk over the projecting ends of the pins on either side (not over the patella) retained them in position. The redundant portions of the pins were removed by wire nippers, leaving only about half an inch projecting on either side of the joint, which was then washed with carbolic lotion and dried. Antiseptic gauze was applied over the punctures, and over all, a covering of antiseptic wool. A back splint was applied, and the limb was fixed by means of strapping and a bandage. This dressing was not disturbed for three weeks, during which time the temperature was normal and the patient was quite comfortable.

At the end of three weeks the pins were removed, there being no redness or other sign of inflammation indicating that they had caused irritation. The fragments seemed to be soundly united. An antiseptic dressing was applied, and over this a plaster-of-Paris bandage, the patient being allowed to get up and to return home on April 1, twenty-four days after the accident.

The plaster was removed on April 27, when the patella was found to be firmly united and the pin punctures soundly healed, the joint appearing to be quite normal. In order to avoid strain on the patella it was considered advisable to let the patient walk about on a Thomas's knee splint for a little time longer without any dressing on the knee itself.

The method is so simple that I wonder it never previously occurred to anyone to adopt it. The slight operation is unattended with difficulty or danger, and the pain of the puncture is so trifling as scarcely to require an anæsthetic.

The important points to be observed are:

1. By drawing up the skin before applying the upper pin, unnecessary traction on the integument is avoided.

2. The pins should be moderately firm, so as not to yield too much; they may either be specially made, or, as in my last case, stout bonnet pins may be employed.

3. The skin around the knee should be asepticised, as should the pins and silk.

4. If there should be much effusion into the joint it

may be advisable to aspirate it before applying the pins and sutures.

5. As the union occurs without the throwing out of any provisional callus, it is advisable not to allow the knee to be used at too early a date lest the strain on the patella should cause the bone to break at the old site of fracture; and this can be accomplished by the use of a Thomas's splint, so as to allow the patient to be up and about within the month.

The advantages claimed for this over other methods are:

1. The operation is so simple that anyone can carry it out.

2. It is unaccompanied by danger, as the joint is not punctured or disturbed in any way.

3. It seems to be efficient in securing bony union, which cannot be said of any of the other methods unattended by danger.

I would add that by a slight modification of the process I hope to be able to treat fractured olecranon so as to secure bony union.

Addendum (July, 1889).—Since writing the above I have treated a case of fractured olecranon by the same method, and have apparently secured bony union without any stiffness of the elbow-joint.

XLVIII.—*A case of Tendon-grafting.* By A. W. Mayo Robson. *Read May* 24, 1889.

ALTHOUGH the case I have shown is of interest as an example of conservative surgery of the arm and hand, the chief point of importance lies in the fact that four and a half inches of flexor tendon from a finger too much smashed to save, was successfully grafted on the dorsum of the hand, so as to form a new extensor for the index finger, its tendon having been completely torn away at the time of the accident.

I was asked in November last to see J. L., æt. 32, with a view to performing amputation of the right arm for an injury which had been caused by the limb being caught in machinery.

The whole of the inner side of the forearm up to the elbow was hopelessly crushed and lacerated, exposing the ulna from one end to the other, but not opening the elbow-joint. The muscles were torn, and the bone was rasped bare of periosteum. The wrist-joint was opened and the inner row of carpal bones was crushed. The three inner fingers were hopelessly smashed and the whole dorsum of the hand was swept clear of skin and tendons, except the extensors of the thumb, which were bared but not otherwise damaged. The index finger, excepting that its metacarpo-carpal joint was opened and that its extensor tendons had been completely torn away, was not further injured.

After a little consideration I decided to try to save the radius, the radial half of the carpus, and the thumb and index finger, and in order to give the possibility of a useful index, to make an extensor indicis from the middle flexor tendon.

The whole limb was scrubbed by means of a nail-brush with soap and carbolised water, well rubbed with benzol, and then thoroughly washed with 1 in 1000 perchloride of mercury solution. As the skin of the inner side of the forearm was destroyed and the bone injured, the ulna was excised to within a little distance of the elbow; the inner side of the carpus was removed, together with the three inner fingers, the skin of their palmar aspect being saved to lap over and cover the dorsum of the hand; the flexor tendon of the middle finger was taken out of its sheath, and four and a half inches

of it placed over the site of the extensor, the proximal extremity being stitched to the fleshy belly of the extensor communis digitorum where the tendon had been previously attached, the distal extremity being fixed to the small portion of tendon left near its insertion into the phalanx.

After thoroughly irrigating with the perchloride solution, the skin was brought as nearly into apposition as possible. The wounds were then protected with salalembroth gauze, and the whole limb was enveloped in salufer wool. No drainage-tubes were used.

The wounds pursued an aseptic course, and there was no sloughing of tendons or damaged skin. The patient returned home within the month and was advised to try to use his finger and thumb.

He returned to his work in February, and now says that he can perform his duties as a weaver as well as ever.

It will be noticed that although the limb has a curious shape, its movements are very good: the wrist-joint is movable; pronation and supination can be effected; and there is good movement in the joints of the thumb and index finger, which can be fully flexed and extended. During extension of the index the new tendon can be felt to move under the integument on the dorsum of the hand.

The man expresses himself as perfectly satisfied with his limb, which enables him to earn his living as well as ever he could.

Few further remarks are needed on the whole case, as I have no doubt many surgeons here present have saved limbs apparently as hopeless; but although tendon suture is now a common operation which has been the means of saving many digits, I am not aware that a whole tendon has ever previously been successfully grafted, nor can I find a record of its having been attempted, although gaps in tendons have been successfully treated by M. Assaky and M. Fargin by distance sutures, and by M. Peyrot by means of grafting portions of tendon from a dog or cat. This latter fact I have only learnt since treating the present case.

The points worthy of notice are:

The observance of antiseptic precautions.

The absence of tension in the new tendon by using a sufficient length.

The use of only a single suture at each end.

The immediate transference from the old to the new site, and the non-use of drainage-tubes.

XLIX.—*A case of Compound Comminuted Fracture of Tibia, with extensive wound of the leg and fracture of the fibula: treated by wiring the tibia after resection of a part of the fibula: recovery.* By William Henry Battle. *Read May* 24, 1889.

G. C., æt. 14, a butcher's cart driver, was admitted into Edward Ward, St. Thomas's Hospital, under the care of Mr. Croft on June 20 and discharged on September 11, 1888.

On the morning of admission he was hanging on behind a coal-waggon, and his right leg caught between the spokes of the wheel. It had been resting on the weighing machine attached to the waggon and suddenly slipped. He was dragged along for a few yards until the waggon, which was going slowly, could be stopped. The limb was placed in splints by a medical man soon after the accident and he arrived at the hospital about 9.30 A.M.

On examination of the leg very extensive damage was seen. A large gaping wound extended downwards along the inner side of the right leg in the line of the tibia; the edges of this appeared sharply cut and were widely separated, the limb being flattened. This wound extended from just below the head of the tibia to a similar distance above the inner malleolus, and curved forwards at its lower end. The sides of this trough-like wound were composed of muscle and intermuscular tissue with shreds of periosteum; and in it, placed obliquely, lay the sharp-pointed upper fragment of tibia, separated from the interosseous membrane and all its attachments for fully five or six inches. At the point of fracture in its lower third, were several small loose fragments of bone, and some had already been removed by the House Surgeon in the Casualty Department. The exposed sharp portion of tibia was partially covered with flakes and strips of periosteum (excepting near the free end, where it was bared), from some of which blood was oozing, and in one part near the free end a small spurting vessel projected and required ligature. The fibula was broken transversely a little above the level of the fracture of the tibia. There was a good deal of oozing from the wound, which measured about eight inches in length. The anterior and posterior tibial arteries were easily felt at the

ankle, and sensation was good in the parts below the fracture. The edges of the wound were bruised at the seat of fracture, but there was no great ecchymosis or stripping up of the skin around.

The boy appeared in good health, and was a bright, intelligent, active lad. The wound was carefully cleansed from dirt. On placing the limb in position it was found that the two ends of the tibia would not meet on account of the loss of bone, there being a gap of about two inches between the pointed ends, and as they had been completely stripped of periosteum and were very oblique it was decided to adapt them to one another and allow of their coming together by the removal of a piece of the fibula, the fracture of which communicated with the large wound. It was calculated that in order to enable the tibia to be placed in good position about one and a half inches of the fibula would require removal. This was done from the upper end of the lower fragment, subperiosteally through an incision on the outer side of the leg measuring four inches in length. A slice of bone was then removed from each fragment of tibia, to enable the ends to be adapted to each other. The section of each was from behind upwards and inwards. Two stout silver wires were then passed through drill-holes, uniting the fragments firmly, the ends of the wire being cut closely and hammered down on the bone. Six silver wire sutures were used to close the inner wound. Some difficulty was experienced in bringing the edges together; they were approximated as closely as possible without excessive tension. Two silver sutures were used for the fibular wound, and a small drainage-tube placed in the lower angle of each. During the operation the carbolic spray was used, the wound was frequently washed out with perchloride solution 1 in 1000, and it was dressed with iodoform and iodoform gauze, with jaconet over it. The limb was then inclosed in a layer of cotton wool from the middle of the thigh downwards. Lateral plaster-of-Paris splints after Croft's method were then bandaged in position and corresponded to the wool beneath, which had also been firmly bandaged in position. The leg was then swung in a Neville's splint. A brandy enema was administered on his return to the ward, and a little stimulant given at intervals during the day. He suffered rather severely from the effects of ether, but had no pain. At 8 P.M. the temperature was 100·6°, he had been sleeping quietly, and said "that there was nothing the matter with him."

On the 21st he complained of feeling hungry and of pain

in the back; had had but little pain in the leg, but an injection of morphia was given in the early morning to procure sleep. The temperature at midnight was 101°; that morning at 8 A.M. 99·8°. Pulse 112, skin hot, tongue white and furred.

On the 22nd the leg was dressed under the spray. There had been a good deal of inodorous sanious discharge, the wound looked healthy, there was no tension and but little pain. The drainage-tubes were removed. The leg was redressed in a similar manner. The temperature had been 101° on the previous evening and was 99·8° that morning.

After the 23rd the temperature became normal.

July 7.—Had only had pain on attempts to move the leg; was redressed. Upper part of inner wound united, lower granulating. There was a little pus in the site of the drainage-tube. The outer wound looked very healthy. There was about half a teaspoonful of pus in the site of the tube. There was also slight œdema of the parts around. Some of the upper sutures removed.

July 16.—Redressed and looking well.

July 28.—The wires were removed; they were found surrounded by florid granulations, and at the lower end of the upper fragment was a patch of bare bone. The wound was closed with six wire sutures and redressed as before. No rise of temperature followed.

August 10.—Wound redressed; the outer wound had healed, the inner presented a superficial granulating surface. The remaining sutures were removed, they had caused no irritation. There was fairly good union.

August 24.—A fresh plaster splint was applied, with windows to allow of the application of boracic acid dressing to the superficial granulating surfaces.

August 29.—Zinc ointment applied over the outer wound. The inner is firmly united.

September 8.—Wounds healed entirely; the leg was placed in entire plaster-of-Paris splints and he left hospital on the 11th.

In this case the extent of damage was so considerable that the first impression given to me was of the hopelessness of attempting to save the limb. The huge gaping wound, deformed and helpless-looking leg, the loose fragments of bone and bared upper end of tibia, made it appear beyond the power of repair. On closer examination, however, it appeared to me that the force of the injury had been felt severely at the point struck by the spoke of the wheel, as evidenced by the extreme comminution of the tibia at that p[illegible] the

parts above and below were not so severely damaged. Although the upper part of the tibia was stripped from all its connections for such a long distance, it had been probably forced out of its position from below upwards, by tearing away of the attachments in an oblique manner, the bone cutting its way through the skin like a knife. This view was confirmed by the appearance of the edges of the wound, which were sharply cut and not contused above the point struck by the spoke of the wheel. It was, however, very evident that unless suppuration could be prevented by perfect rest and the successful use of antiseptics, although the patient was young and in excellent health and the arteries of the limb uninjured, the pus would be able to burrow in every direction and a secondary amputation be required. When placed in position the ends of the tibia were so far apart that without the support of the fibula, which was also broken, the leg was like a flail, and it did not appear to me possible to ensure the requisite amount of immobility without resorting to the expedient employed —that of wiring the tibia after resection of the fibula to the extent done. By this means and the use of plaster-of-Paris splints applied after Croft's method, which included both ankle- and knee-joints, I think the greatest possible amount of immobility was obtained. It seemed to me better to try for primary union between the shaft of the bone and the bed from which it had been forced, with a good chance of preventing suppuration, even at the expense of a shortened leg, than to run the risk of putting up the fracture in a doubtful condition with free mobility. One element in the treatment of the case to which I attach importance is the careful and firm bandaging of the part below the seat of fracture in a layer of elastic cotton wool. It seems to me that this presents several advantages, one of which is the diminished liability to swelling from slight obstruction of the venous circulation. The elevation of the limb when swung lessened the supply of blood through the arteries. In conclusion I would recommend wiring of the fragments of bone in some compound fractures in order to secure greater steadiness during treatment. I have seen very good results from wiring in severe cases, and the patient is spared much pain during the after-dressings. In many instances the fracture can be treated like the wound after the operation for ununited fracture, the skin being united over the buried wire, which may be left for a long period without producing inconvenience, and may be removed easily and at will.

Mr. Annandale has recently recommended the excision of a portion of the entire thickness of one or other of the bones of the forearm or leg, in order to allow the proper approximation of the ends of its companion bone which has suffered loss of substance. I am not aware of any instance in which this has been done, other than in the one which I record, and think that the cases in which it is indicated are few. Although this case was operated on many months before the publication of Mr. Annandale's paper, it is quite possible that my treatment of the patient was suggested to me by a conversation which I had had not long before with that surgeon.

Mr. Croft asked me to act for him in this case and kindly permitted me to continue in charge.

LIVING SPECIMENS

DESCRIBED BY CARD.

*** Published in accordance with the Regulation relating to the exhibition of living specimens at the meetings of the Society, viz. that "each case shall be accompanied by a card containing a brief description of the points it illustrates, such card to be retained by the Secretary for publication or not in the *Transactions* at the discretion of the Council."

I.—*Case of Syphilitic Arthritis.* By STEPHEN MACKENZIE, M.D. *Exhibited October* 12, 1888.

JULY 9, 1888.—This patient was admitted into the London Hospital, with painful swelling of right elbow and right knee, and pain over the right parietal bone.

Family history.—Mother has suffered from arthritis, probably osteo-arthritis; father, sister, and brothers have had no form of arthritis.

Personal history.—Patient is a labourer, has lived in London for twenty years, before that in Norfolk; has been healthy except for the present ailment and syphilis. Had a chancre about a fortnight after connection in April, 1871; in May had a skin eruption all over his body; in June had inflammation of the left eye. He was under treatment about five weeks at this time. In 1875 a hard lump began to form on the right ulna, which became soft, suppurated, and has left a scar. About the same time he had an abscess which left a scar in right popliteal space. About two years ago the right knee began to swell, and became painful; about seventeen weeks before admission the right elbow swelled and became painful; about three weeks before admission he began to have severe pain in the head over right parietal bone.

Condition on admission.—Right-elbow joint greatly swollen,

fluctuation on either side of olecranon, spot on outer side where skin is thinned and is red; humerus, radius, and ulna much thickened with irregular bony outgrowths; joint extremely painful, movement impossible beyond 4 or 5 degrees; arm half flexed, and between pronation and supination. Right elbow 13¼ inches, left elbow 11¼ inches in circumference. Muscles of arm, forearm, and hand wasted. Right knee very similar, but condition not so intense, great effusion into cavity. Right knee 15 inches, left 13¾ inches. Slight swelling over parietal bone (right) extremely painful. Old adhesions of right iris to lens. Scar on right ulna, and in right popliteal space.

Treatment.—Ten grains of iodide of potassium three times a day; Scott's dressing to knee, arm in splint. Iodide of potassium rapidly increased to twenty grains.

Subsequent course.—Rapid subsidence of swelling in elbow, knee, and on parietal bone, disappearance of pain.

September 8.—Forced movement of elbow under an anæsthetic.

October 11.—Complete movement obtained, subsequent synovitis. Now there is very good movement of knee and of elbow unaided, about 20°, with some pronation and supination. Still much bony thickening round affected joints.

Remarks.—The case presents appearances which correspond to the descriptions of syphilitic arthritis of the tertiary period by those who have written on the subject (Voisin, Howard Marsh, &c.). The articular disease has been aptly compared to, or designated, "white swelling." The age of the patient and the absence of any signs of struma effectually negative this being scrofulous.

The only disease, other than syphilitic, this might well be taken for is chronic osteo-arthritis. The absence of any affection of the small joints of the hands is against it being one of this kind. Cases do occur, of single-joint, or one- or two-joint affection in this disease, however. The amount of thickening of the synovial membrane in this case is not like what is seen in rheumatoid arthritis. Further, there are the history of antecedent syphilis and the concurrence of actual syphilitic manifestations to be taken into consideration. Perhaps no great stress should be laid on the effects of treatment, though benefit appears to have resulted to the joints and the node in the parietal bone from iodide of potassium. Thus, the history of syphilis, and concurrent signs of syphilis, the peculiar character of the joint affection, and the absence of

the manifestation of osteo-arthritis or other forms of rheumatism, are held to establish the diagnosis of syphilitic arhritis.

II.—*A case exhibiting a Progressive Partial Fixation of many Joints, possibly of a rheumatic nature.* By W. Pasteur, M.D. *Exhibited October* 26, 1888.

SELINA P., æt. 8¾ years. With the exception of two attacks of measles the previous history is good. There have been no indications whatever of rheumatism in any form before the onset of the present affection. Her parents are not rheumatic. In early childhood she was small for her age, but well nourished. There are two other healthy children in the family, a third died of athrepsia at the age of four months.

The first symptoms of the present illness appeared some three years back in the form of painful swelling (œdema) of the hands and feet, which has been liable to return and again disappear, ever since. The last well-marked attack was in the early part of this year. During these attacks the patient is unable to walk or to put on her shoes, but the temperature does not appear to be raised. (There has been no œdema of extremities since the patient has been under observation, six weeks.) At times there appears to have been a condition of general hyperæsthesia (?) of the skin. Stiffening of the joints was first complained of about eighteen months ago. The fingers, wrists, elbows, knees, and ankles were affected simultaneously. The progress of the disease has been attended by a marked wasting of the whole body, not excepting the face, which is thin and looks dried up, in striking contrast, according to the mother, with its former aspect. The child's disposition has also altered considerably. From a bright lively child she has grown into a taciturn, apathetic and somewhat irritable girl.

Present condition.—A thin, dried-up looking child. The head and ribs show traces of rickets. When standing, the head and shoulders droop, and there is a general curving forwards of the spine, which, however, the child can readily straighten without any pain. The hobbling gait is peculiar, and is principally due to the almost complete fixation of both

ankles. The position of the upper extremities is a little suggestive of tetany. The child rarely speaks or smiles. When she does the mobility of the features appears less than normal, and the skin of the face seems wanting in elasticity. The movements of the lower jaw are limited and not equal on the two sides. The incisors cannot be separated more than three quarters of an inch at the utmost, and apposition of the teeth is very imperfect. The skin of the arms and legs fits closely to the wasted limbs, but cannot be said to be unduly bound down to the deeper structures, unless it be over the back of the wrists and the front of the thighs. It is perhaps a trifle more glossy than normal in these situations. The mobility of the shoulders and hips is not appreciably impaired.

At the elbows there is a considerable limitation of movement in extension; the arrest of movement is due to shortening of the flexor muscles, whose tendons stand out prominently beneath the skin.

At the wrists extension is still more limited, and causes considerable pain. Neither hand can be brought back into the line of the forearm, and forced flexion also causes much pain. The condition is more advanced on the right side. Pronation and supination are also limited.

The fingers are rather stiff and ungainly looking, from irregular thickening (?) of the deeper structures. All their movements are partially impaired, and passive movement of their articulations causes much pain.

The affection of the knees is less obvious. There is limitation of flexion, evidenced by the fact that the heel cannot be brought into contact with the buttocks by some four inches. Both ankles are almost entirely ankylosed (fibrous).

There is nowhere evidence of effusion into joints or enlargement of the extremities of the long bones, but on the inner edge of the right ulna there are two small painless bony eminences. The limitation of movement at the several joints above mentioned, except perhaps the ankles, is due to shortening of the muscles whose tendons pass over them, and probably not to any affection of the joints themselves.

The spine and ribs do not appear to be affected, at all events to an appreciable extent.

The general condition of the child's motor apparatus is fairly well expressed by saying that she shows a tendency to stiffen in any position in which she may happen to have been sitting or lying, and that the process of unstiffening is attended with considerable difficulty and some pain.

The other organs, including the heart, present no signs of disease. There are no rheumatic nodules. The superficial reflexes are all present, and the knee-jerk, although slight, can be elicited in either leg without much difficulty.

Supplementary note (April 29, 1889).—The child has been under observation since October, 1888. In November she was discharged from the North-Eastern Hospital for Children on account of scarlet fever, but was readmitted at the beginning of March, 1889. In the interval her disposition had become decidedly more cheerful, passive movement of the limbs was less painful, and spontaneous pains had altogether ceased. But beyond this there was absolutely no change in her condition.

Under chloroform there is no change in the state of the limbs. The shortening of the flexor muscles is confirmed. The movements of the affected joints are perfectly free and smooth within the limits of fixation.

The flexor muscles in general react rapidly to faradic stimulation, whereas the extensor muscles require stronger currents and contract feebly.

The treatment has consisted in a hot bath (98° F.) on alternate days, with massage of arms and legs three times a day. At the end of four weeks there were no signs of improvement. The hot baths were now omitted, and hot-air baths substituted; massage as before. The skin reacted well, but at the end of a week the sweating was discontinued, owing to some return of pain in the limbs. During the last fortnight the child has been taking five-grain doses of iodide of potassium thrice daily without benefit.

Excepting the presence of pain and a history of swelling of the hands and feet, this case has little claim to be considered rheumatic. The disease process, whatever its nature, appears to be very generalised, judging from the fact that the face and all four limbs are involved. The slight degree of glossy skin on the limbs, coupled with the general wasting and toughening (?) of their deeper structures, rather suggests an affinity to diffuse symmetrical scleroderma, a view of the case taken by several members of the Society.

III.—*Complete Compound Dislocation of Elbow: perfect recovery of joint.* By H. H. CLUTTON. *Exhibited November* 23, 1888.

A BOY, æt. 12 years and 11 months, was admitted into St. Thomas's Hospital on September 14, 1888, with the following history:

He was playing at football, and being pushed forwards fell on to his outstretched hands. Another boy behind him fell at the same time on to the middle of the back of his left arm.

On admission, the lower end of the left humerus was found protruding through a thick strong shirt. On removing the shirt a rent in the skin was found in front and to the inner side of the left elbow, through which the whole of the lower articular surface of the left humerus was projecting. The brachialis anticus was torn through, but the coronoid process of the ulna was intact. The muscles on each condyle of the humerus were torn off, carrying on the outer side a small portion of bone. Complete dislocation of the radius and ulna backwards and outwards had been produced by the fall, and the additional violence of the second boy falling on the back of the patient's elbow had no doubt forced the humerus through the skin.

The brachial artery was uninjured, and sensation in *all* the fingers normal. The artery and median nerve could be felt and seen in the wound.

After the dislocation had been reduced, counter-openings were made on each side of the olecranon to drain the joint. Drainage-tubes were introduced behind, and the anterior wound left open. Corrosive sublimate dressing and a plaster-of-Paris splint were applied.

His temperature never rose above 99°, and at the first dressing, on the 17th, the drainage-tubes were removed. The posterior wounds were healed on the second dressing (the 24th), and on October 5 the anterior wound was superficial. The passive movements of the joint were then found to be perfect, except that the arm could not be fully extended.

He subsequently carried out his own treatment of increasing the active movements in the elbow-joint, coming twice a week to the out-patient room to show the progress he was making.

It is now exactly ten weeks since his accident, and it will be seen that the movements of the left elbow-joint are almost as good as those of the right.

IV.—*A case of Charcot's Disease of both knee-joints, with unusual formation of new bone.* By ANTHONY A. BOWLBY. *Exhibited January* 11, 1889.

H. G., æt. 47, was admitted into St. Bartholomew's Hospital on November 17, 1888, suffering from disease of both knee-joints, and from tabes dorsalis.

The patient was shown at the Clinical Society at the meeting held on November 14, 1884, at which there was a discussion on "Charcot's disease." He has been under my own observation since May 17, 1884.

His history is that he had syphilis when eighteen years of age, and that he had been a heavy drinker.

In 1879 he suffered from perforating ulcers under the left great toe, and had several fits, apparently of an epileptifom nature.

In 1881 he had a perforating ulcer under the right great toe, and about this time, or sooner, he began to notice that the vision in his right eye was not so good as in the left.

In 1883 he developed lightning pains in the lower extremities.

Since that time the ulcers under the toes have frequently reopened and again healed, the patient stating that they always reopen if he takes alcohol in any form, and that they heal readily if he leaves off drinking.

He has had slight ataxy for the past five years, and his tendon-reflexes have been absent since he was first seen in 1884.

He has occasionally had attacks of incontinence of urine and fæces, and now suffers from grey atrophy of the right optic nerve, with considerable impairment of vision. Both pupils contract to accommodation but not to light.

His left knee first became troublesome in 1879, and gradually got more stiff and weak up till the time of his admission to the hospital in 1884. At that time there was very free lateral movement but impaired flexion. The knee was much enlarged, and bosses of bone of irregular shape and size could be felt both in the synovial membrane and attached to

the margins of the articular end. The patella measured 4½ inches laterally, and 3 inches vertically. On account of the yielding of the joint, the patient could bear no weight on the limb, so the knee was supported by a leather splint.

Since 1884 the bosses of bone have steadily increased in size, so that at the present time the shape of the normal articular surfaces is quite obliterated, and the whole joint presents an irregular mass of bone with numerous rounded bossy prominences, most of the new bone being apparently attached to the tibia, though some of it is loose in the soft tissues, and other portions are attached to the femur and the patella.

On account of these conditions, movements of the joint are almost entirely prevented, but it is worthy of notice that this immobility of the articulation is very beneficial to the patient, and that now he can bear his weight on the limb, and can dispense with all splints.

The lower end of the femur appears to fit into a large irregular cup-like cavity in the tibia, formed chiefly by masses of new bone. The tibia also has slid a little upwards and outwards, so that the left lower extremity is one inch shorter than the right.

The right knee has been quite sound until the last few months. In July, 1887, he first noticed swelling of the joint, which steadily increased until the knee assumed enormous dimensions. The knee and thigh then swelled, and the joint became loose and flail-like, so that he could not bear much weight upon it. At no time, however, did he suffer the least pain either during movement or when at rest.

On admission to the hospital the right knee-joint was found to be very greatly distended, the synovial pouch under the quadriceps reaching quite one third of the way up the thigh. On account of the tension of the fluid it was impossible to feel the condition of the bones, but there was a good deal of lateral movement and much crackling and crunching on flexion of the articulation. The leg also was swollen down to the ankle, but the skin was normal and did not pit on pressure.

The joint was treated by rest and strapping, and during the past two months almost all the fluid has subsided, and now there can be felt on the inner side of the knee a large, loose, irregular mass of bone, and smaller bony outgrowths from the femur, tibia and patella. It thus appears that the right knee is about to imitate its fellow and to become fixed by the formation of bony growths.

V.—*A case of Epitheliomatous Ulcer of Right Tonsil.* By F. DE HAVILLAND HALL, M.D. *Exhibited February* 8, 1889.

PATIENT, a man æt. 50, was admitted into the Westminster Hospital on November 7, 1888. He stated that three weeks previous to admission his throat had commenced to be painful. He complained of pain on swallowing and speaking, and there was profuse salivation. Previous to present illness he had been a very healthy man and had not suffered from sore-throat or rash on body. The right tonsil was found to be destroyed by a deep excavated ulcer with a greyish slough lying in it; the edges of the ulcer were raised, irregular, somewhat indurated and very tender. Glands at angle of right jaw were enlarged, hard and tender, those on the left side were also slightly enlarged. The appearance of the ulcer suggested the sloughing out of a gumma, but against the syphilitic nature of the ulceration were to be placed the indurated edge of the ulcer and the hard glands in the angle of the jaw. The patient was, however, ordered five grains of iodide of potassium (eventually raised to thirty) every six hours and the Mist. Spiritus Vini Gallici (B.P.) every four hours, the latter being given as the patient was a teetotaler and objected to stimulants. The improvement was at first so rapid and decided that it was hoped that the syphilitic view might be the correct one; soon, however, the glands of the neck began to get greatly enlarged, and at the present time the diagnosis of malignant ulceration of the throat is clear.

VI.—*A case of Fibro-lipomata in the Arms; with marked clubbing of fingers.* By F. DE HAVILLAND HALL, M.D. *Exhibited February* 8, 1889.

THE patient, a man æt. 62, stated that he had been ill for seven years, complaining of cough, expectoration, and dyspnœa. The fingers are markedly clubbed, the toes are also clubbed but to a less extent. The nose and ears are not affected. In the subcutaneous tissue of the arms and shoulders

PLATE XII.

To illustrate Sir Dyce Duckworth's case of Uratic Tophi on the Scrotum of a Gouty Man.

Danielsson & Co lith

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are numerous tumours varying in size from a pea to a pigeon's egg, evidently fibro-lipomata. The skin and subcutaneous tissue in the hypochrondriac and infrascapular regions are loose and movable, seemingly due to increase of fat and fibrous tissue. Scattered over the thorax, abdomen, and arm are clusters of distended venules.

The heart-sounds are quite clear and there are no very definite physical signs to be elicited on examination of the chest, except slight indications of emphysema, and in the right interscapular region there is impairment of resonance with increased vocal resonance, suggesting some fibrosis of the lung.

VII.—*Uratic Tophi on the Scrotum in a gouty man.* By Sir Dyce Duckworth. *Exhibited February* 22, 1889.

J. W., æt. 58, a retired lighterman, robust looking, of large frame, came to St. Bartholomew's Hospital for advice respecting numerous tumours on the scrotum. My colleague, Mr. Butlin, directed my attention to the case after satisfying himself of the nature of it. The skin of the scrotum was melasmic, as occurs in Addison's disease. About eighteen or twenty tumours of whitish pink colour, varying in size from that of a pea to a horse-bean, were seen, contrasting markedly with the dark integument. They somewhat resembled a crop of so-called sebaceous mollusca. Whitish specks were visible on the surfaces of some of the tumours. On puncture of one of them a milky pap exuded which was found to contain fatty matter and cholesterine, with acicular crystals of sodium urate. The murexide test was satisfactorily obtained from the latter.

The history of the case was that these tumours had began to form at the age of nineteen, and had since grown, some having discharged and disappeared. Attacks of frank gout had been frequent but not very painful, beginning in the right great toe-joint, then in the left one, forty or fifty such having been experienced. The knees had also suffered, and several metacarpo-phalangeal joints. No distortions were found in any joints, and no tophi were discovered elsewhere than on the scrotum. This man had drunk all kinds of liquors

but not, according to his own account, very intemperately. He knew of no history of gout in his family. His mother, he believed, suffered from rheumatic fever.

The urine was reported to be plentiful, but was not examined. The heart was free from murmurs and from hypertrophy of the left ventricle.

This man had been a large eater, formerly taking meat three times a day.

VIII.—*Co-existence of Psoriasis and Uratic Tophi (in the Ears) in a gouty man.* By Sir DYCE DUCKWORTH. *Exhibited February* 22, 1889.

THIS case was shown to illustrate a very rare combination. Much doubt is now cast upon the truly gouty nature of psoriasis in many instances, and it arises from the error of regarding gout merely as a paroxysmal or articular disease.

J. L., æt. 54, a carman, came into St. Bartholomew's Hospital suffering from gout in the right knee and in the right great toe-joint. He had been seventeen years in the army. There were patches of characteristic psoriasis on the shins, elbows, and arms. Tophi were present in both ears. The psoriasis supervened after the first manifestations of gouty arthritis. A sister suffered from "chalky" gout, and the father, judging from the history given, was almost certainly gouty.

IX.—*Two cases of Malignant Stricture of the Œsophagus wearing the short funnel-shaped tube.* By CHARTERS J. SYMONDS, M.S. *Exhibited February* 22, 1889.

CASE 1.—S. T., æt. 40. Dysphagia began six months before he applied at Guy's Hospital, and for the last half of this period he had been restricted to fluids. He swallowed with difficulty, and there was sometimes obstruction.

On January 7 a short tube was introduced, the stricture being 12 inches from the teeth. In ten days he stated that he had gained 19lbs. in weight, and was so much better that the tube was left out. Within a few days obstruction again occurred and some difficulty was experienced in introducing the tube. When shown to the Society the man could swallow freely, was free from all inconvenience, and was able to do his work.

Note.—Since the patient was exhibited he has been regularly under treatment as an out-patient. A tube has been constantly worn, but has required changing from time to time on account of its getting blocked. The interval varies from three to four or more weeks. The treatment of this case is carried out principally by my dresser Mr. Paget. When last seen, the man was comfortable and swallowed freely. A deep-seated pain in the chest, and a liability to bleed, suggest extension of growth. He is now (May) in the fifth month of treatment.

Case 2.—J. C., æt. 58, came to Guy's Hospital on January 18, 1888, with dysphagia of seven to eight months' standing. For five weeks he had been restricted to solids. A stricture was found 13½ inches from the teeth. As the man was taking fluids with difficulty a No. 12 short tube was inserted. It was removed in about four weeks. Early in April the tube was left out for a fortnight, but he was not so well, and since then he has worn No. 14 constantly. He has required it to be changed more frequently than usual, because he is injudicious in the matter of feeding; once it was blocked by mutton and once by greens. He has now (May) nearly completed the fourth month of treatment.

The account of the original case will be found in the eighteenth volume of the Society's *Transactions*. Since that time he (Mr. Symonds) had treated by prolonged tubage twenty-two cases, the two exhibited at above meeting making twenty-four. No unpleasant consequences had attended the wearing of the tubes, all the patients had improved, and life had been prolonged for periods of four to eleven months.

X.—*A case of Spastic Diplegia in a child the subject of congenital syphilis.* By Charles Arkle, M.D. *Exhibited February* 22, 1889.

GEORGINA B., æt. 8, was admitted into University College Hospital February 5, 1889, for paralysis.

Patient was a first child and born after a tedious but normal labour, no instruments being used. Mother states that she has one other child, a boy æt. 5 years, who is quite healthy. No miscarriages. Neither of the children had snuffles. Both parents appear to be quite healthy. No history or evidence of syphilis obtainable in the parents.

History.—The child has never walked satisfactorily. When fifteen months old the child could not put the heels down properly, but attempted to walk on the toes. The child was not allowed to walk at all. The feet have gradually turned inwards into their present position of talipes equino-varus. The hands became affected the same time as the feet. There is no history of convulsions at any time, but twitchings and stiffness of the arms and legs occurred when the child was three and a half years old, and have been noticed at intervals since. Child had measles slightly when four years old and scarlatina with dropsy at the age of five.

Present state.—The patient has well-marked signs of congenital syphilis, depressed bridge to nose, scars about mouth and nose, adhesion and scarring of uvula and soft palate, &c. She has a semi-idiotic expression of face, is cheerful and easily amused. She has a discharge from both ears.

Nervous system.—A. *Peripheral.*—Motor.—Patient sits up in bed and there is no obvious paralysis. Movements very awkward, especially the fine movements of the fingers. There is considerable rigidity at the different joints, which can be overcome fairly easily, and which disappears during sleep and under the influence of chloroform. The rigidity is most marked in the small joints of the fingers and wrists, present in elbows, less marked in the knees and hips.

The feet (especially the left) are in the position of talipes varus, and this appears to have been produced by the contraction of the leg-muscles. Patient can walk a few steps awkwardly on the outer border of the feet.

Sensation everywhere perfect and acute to all varieties of stimuli.

B. *Central.*—Cranial nerves quite normal; no ophthalmic changes.

Intelligence not good, but patient is not idiotic. Patient answers rationally, takes notice of everything going on around her, knows a few nursery rhymes, remembers the day

FIG. 26.

of the week &c., but does not know the alphabet, having never been taught.

No mental defects.

Muscles badly developed, and rather flabby; no special wasting. Some general wasting of left leg. Muscles react to both faradic and galvanic currents.

Reflexes (superficial): plantar, epigastric, abdominal, present. (Deep): Knee-jerks are active, no ankle-clonus.

As the patient sits in a chair any sensory stimulus causes the legs to become rigid in extensor spasm. The spasm is also present in the arms, but is less marked.

Viscera of abdomen and thorax healthy.

The case might almost be said to belong to the class of so-called "birth-palsies," since the changes, although not noticed at birth, evidently came on at a very early date.

Thus at the age of fifteen months there was well-marked spasm, weakness, inco-ordination and spontaneous movement, but the entire absence of any convulsion or anything unusual at birth suggests that possibly the change may be due to a general sclerosis of the whole brain, depending on the syphilitic taint from which the child undoubtedly suffers.

Cases closely resembling this one, with the results of post-mortem examination, have been recorded by Dr. Gee in vols. xiii and xvi of the *St. Bartholomew's Hospital Reports*.

XI.—*Case of cured Subclavian Aneurysm.* By Thomas Barlow, M.D. *Exhibited March* 8, 1889.

RUTH H., æt. 50, was admitted under my care at University College Hospital August 18, 1886, complaining of great pain about the right shoulder and down the right arm, and presenting a pulsating tumour above the right clavicle. The pain had existed for at least fifteen weeks; it had considerably diminished during the last week after the application of blisters, but it is significant that this diminution of pain also corresponded with the appearance of the swelling above the clavicle.

For two years the patient had been engaged in a shop in which many times a day she had to open a very tight drawer. This drawer was so stiff that she was obliged in closing it to press her back against the wall and assist her arm and hand by pushing the drawer with her knee. She believes she has injured herself in opening and closing this drawer.

In regard to her previous history, it was ascertained that she had had two stillborn children and five early miscarriages.

She had also suffered from sore-throats repeatedly during one winter some years after her marriage. Five years ago she had some ulcers on the left leg which healed spontaneously.

She had suffered from what she called rheumatism in the right leg twenty years before, and she had repeatedly suffered from pains in the head. She had not taken more than one ounce of whisky daily.

Her condition when admitted was as follows: A fairly developed woman but looks rather older than her age. Venules on cheeks decidedly varicose. No tophi. Has scars of three ulcers on outer surface of left leg. The superficial veins of both legs are somewhat varicose but the above scars seem to be independent of these veins. Some ill-defined bony thickening of front of left shin.

Above the right sterno-clavicular articulation there is a pulsating tumour rather less than a walnut in size. It is expansile and the pulsation is synchronous with the heart's beat. Over it there is a rough systolic murmur to be heard, but this is only conducted a very short distance. The heart's apex-beat is not visible but can be felt in the fifth space within the nipple line and it is not heaving in character. There is cardiac dulness for three quarters of an inch to the left of the sternum in the third space and for two inches in the fourth and fifth spaces to the left of the sternum, but there is no dulness to the right of the sternum nor can any pulsation be detected in the first right space, and only a very slight pulsation in the supra-manubrial space.

The right radial pulse differs in several respects from the left. It is slightly delayed behind the left; it is also smaller and more compressible than the left, and the sphygmographic tracings show it to be simpler, that is the secondary waves are not represented. The other arteries of the body are not notably altered. There is no undue rigidity or tortuosity.

The veins of the right upper limb were very slightly more distended than those of the left, but there was no œdema of the right. There was some complaint of pain about the right shoulder, shoulder-blade, and down the arm, but this was less than it had been. The pupils were equal; there was no one-sided flushing or sweating. No organic disease could be found elsewhere. From the signs above given it seemed pretty clear that (1) there was an aneurysm of the first part of the right subclavian artery, and (2) that the arch of the aorta and the innominate were, so far as physical signs could indicate, free from dilatation. From the history it

seemed possible that the nutrition of the arteries might have been impaired by syphilis, and that the special strain in the patient's occupation might have determined the local mischief.

The treatment adopted was as follows: Dry diet without stimulant for ten months. Iodide of potassium was given, beginning with six grains thrice daily, gradually increased up to fifteen grains thrice daily at the end of one month, and was omitted after ten weeks from the onset on account of iodism. After a fortnight it was recommenced in five-grain doses and was increased up to ten grains thrice daily, and this was continued with occasional intermissions for nine months. The patient was kept in bed in hospital for four months, and at home for four months longer. Two other measures were adopted, viz. (*a*) the arm and forearm were bandaged to the side, ten days after admission, and the bandage was maintained for thirty-four days; (*b*) three weeks after admission an ice-bag was applied over the aneurysm and was kept applied for thirty-eight days.

Progress of the case.—The patient was most loyal in conforming to the treatment. The aneurysm during the first three weeks showed slight indications of increase, and it was on that ground that (*a*) and (*b*) were added to the other lines of treatment. It is difficult to estimate the relative value of the different therapeutic measures used. It may be stated, however, that the patient found the ice-bag comfortable and that for a time the fixation of the limb was grateful to her. The latter had, however, to be relinquished on account of the occurrence of very remarkable atrophy of all the forearm muscles and fibrous ankylosis of the finger- and wrist-joints with desquamation of the skin of the hand. These tissues were, after several months, completely restored by gentle kneading with oil and passive movements. The subsidence of the aneurysm was gradual but ultimately remarkably complete. Thus in about eighteen months' time no tumour at all could be made out and the murmur had vanished. The right radial pulse still retained the characters at first described, but the patient was free of pain and able to use the limb easily. There was still a very little wasting of the interossei and slight stiffness of the finger-joints. I have kept the patient under frequent observation until the present date (March 8, 1889), and it is obvious now that there is no return of the swelling and that, with the exception of the right radial artery being smaller than the left, the two limbs are similar. The

patient has for several months been allowed to use the right upper limb freely. The case may therefore I think be fairly considered one of cured subclavian aneurysm.

I have to thank Dr. Rüffer, house physician at University College Hospital, for his assistance both in the treatment and in the recording of this case.

XII.—*A case of "Mercurial Tremors."* By Charles Arkle, M.D. *Exhibited March* 22, 1889.

JOHN P., æt. 62, an Italian, was admitted February 27, 1889, complaining of trembling in hands and legs, especially in hands. Some pain in shoulders.

Family history.—Good.

Social history.—Has lived in England forty-five years. Has been "a looking-glass silverer" for thirty-four years, previous to which he was in the artificial flower trade for eleven years. Habits always steady. Hours of work from 8 A.M. to 8 P.M. He was employed in running quicksilver on to tinfoil; he does not touch the metal with his hands more than he can help. No lead used.

Previous health.—For the most part good. Was in the London Hospital about twenty-six years ago for thirteen weeks, with an attack of "trembles," his head, hand, and legs being affected. He was discharged quite well and returned to his work. Was in St. Bartholomew's Hospital eighteen years ago for fifteen weeks with a second attack, more severe than the first. He could only move about on hands and knees, legs being badly affected. No actual paralysis. Many of his teeth came out while he was eating, quite painlessly. This was chiefly in the upper jaw. He also had stomatitis, ulceration of mucous membrane of gums, and dribbling of saliva. His hands were also badly affected, so that he could not feed himself, and his speech was difficult, owing to the trembling of his tongue. He had to leave hospital only partially cured, on account of the illness of his wife.

The present attack came on Christmas, 1888, his hands being mostly affected. Speech a little hesitating and awkward but not notably so. No colic, nor sickness in any of the

attacks; has had smarting of the eyes a good deal whilst at work; eyesight unaffected.

Present condition.—Patient is a well-preserved intelligent man of a somewhat cachectic appearance.

Thoracic and abdominal viscera quite healthy.

Nervous system.—No paralysis, grip of both hands good. Sensation normal. Cranial nerves normal. No marked mental defects, but patient at times has been very irritable, and has suffered from nightmare, screaming out and struggling in his dreams. No convulsions nor headache, no nystagmus. Muscles well developed, fairly firm, no special nor general wasting.

Electrical reactions.—Normal.

Reflexes.—Superficial and deep-normal. Patient has marked tremors of the hands and forearms. On admission this tremor was continuous, and as the patient sat with his hands on his knees for the purpose of restraining the movements, had a rough resemblance to the tremor of paralysis agitans. However, on asking him to use the hands, as in writing, or doing any delicate manipulation, it was at once seen that the movements were most extreme. They were even as vigorous and of as great extent as those seen in a well-marked case of disseminated sclerosis. From the fact that all other symptoms of nervous disease are absent, and from the absence of lead in the patient's occupation, there can be little doubt that these attacks are due to chronic mercurial poisoning.

XIII.—*On certain cases of Lateral Curvature of the Spine, and on an Instrument for the accurate measurement of the different deviations comprised under that name.* By Richard Barwell. *Exhibited March* 22, 1889.

I HAVE caused to come here three patients with lateral curvature of the spine. They are inmates of the Home for Crippled Boys. Just now it is not my object to refer to the treatment of any of these cases. The first is John Singleton, æt. 17, who became crooked in very early life. His deformity is the usual S-shaped curve; he exhibits a somewhat extreme amount of deformity. The left crest of the ilium stands nearly

3 inches higher than the right, the lateral deviation opposite the sixth dorsal vertebra is 3¼ inches, the rotation to right is 32°. These numbers and measurements are obtained by an instrument to be explained immediately.

The second case, George Glosby, æt. 15, is remarkable. According to his mother's account the spinal curvature is congenital; its form is very unlike the S-shaped curve, for down to the sixth or seventh dorsal vertebra the column is fairly straight; at that point the vertebræ suddenly take a direction to the left, and about the eleventh or twelfth dorsal sweep back again. In this case the right hip is seven eighths of an inch higher than the left (he cannot, however, on amount of troubles in the right lower extremity, get that heel to the ground), the lateral deviation is nearly an inch to the left. Rotation to the left 24 per cent.

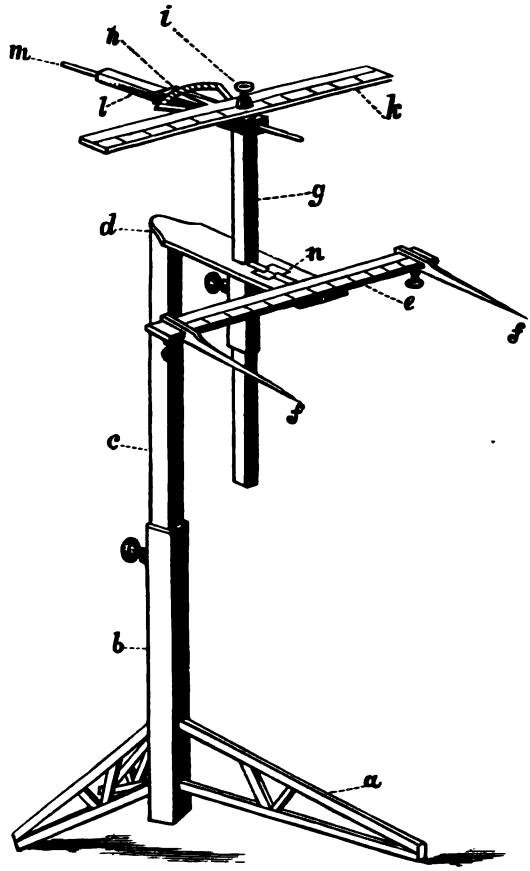
The third case, John Sage, is very similar. I will not give the measurements now but leave them to be taken when I describe the instrument. I will only further remark on these two last cases that they appear to correspond with a plate of a distorted vertebral column given by Malgaigne, and with a dry preparation in the College of Surgeons Museum (Pathol. Series, No. 2099).

It has long been a desideratum of surgery to possess an instrument by which with ease and celerity measurements might be taken of the various deviations whose sum constitutes the deformity called "lateral curvature." A great many such have been devised but have failed; some because they are in principle inefficient, some because their use requires too long a time, some because they are cumbersome and expensive. I have used the instrument about to be explained for a considerable time and find that it fulfils its purpose very thoroughly.

It is of brass and stands upon three nearly horizontal feet, the two hind ones projecting radially from the centre 11 inches, the front one (*a*) 14 inches. From their meeting point at the centre a 1-inch square tube rises perpendicularly 1½ feet. (*b*) In it slides smoothly a square rod fixable by a clamp screw. This second rod (*c*) bears atop a horizontal plate (*d*) 6 inches long by 2 broad projecting accurately over the longest foot. At the end of this plate and at precise right angles with its long axis is a rule (*e*) 15 inches long and divided into inches and tenths. Sliding on the lateral
of this rule are gauges (*f f*) fixable by clamp-screw
horizontal plate moreover has a slot along its centre

which a wire (*n*) plays in and out beneath the exact centre of the rule.

FIG. 27.



a. The long foot.
b. Lowest square tube.
c. Lower slide.
d. Horizontal plate.
e. Lower fixed rule.
f f. Pelvic gauge.
g. Upper slide.
h. Sextant with indicator.
i. Clamp screw.
k. Upper revolving rule.
l. Bar sliding in socket.
m. Upper marking wire.
n. Lower marking wire.

It will, I think, conduce to the understanding of this instrument, simple in reality though its explanation may seem com-

plicated, if I now explain how this lower part is used. The clothes being removed from the upper part of the patient's body a dot is made with ink on the first and second sacral spine and on the crest of the ilium at each side outline; he is then directed to stand with the knees straight and the feet together, and between the latter the longest foot of the instrument is guided till the fixed rule is three or four inches from the surface of the body. The slide is drawn out till this rule is about on a level with one of the ink dots on the sacrum; the end of the wire is touched with a freshly dipped pen, and is again withdrawn into its slot. Now the instrument is glided further forward until the edge of the rule is in actual contact with the posterior part of the pelvis; the gauges are brought inward till they touch the ilia. The wire being extruded makes a dot where, if the pelvis were straight, its centre would be. The distance on each side of the gauge from the dot on the iliac crest is measured with compasses and checked off on the rule. This part of the instrument indicates therefore whether or not the pelvis be oblique and measures the amount of that obliquity. Another condition of pelvis hitherto overlooked is present in a large percentage of cases, chiefly in dorsal ones; it will be referred to hereafter.

As yet only a comparatively minor point in the investigating power of this instrument has been shown; the more important portion lies above the horizontal plate that bears the fixed rule. In this plate, 4 inches from its front end, is a socket and clamp-screw and in the socket a third square rod (*g*) plays up and down; the top of this rod carries a socket (*h*) running in a direction away from the longest foot, that is away from the patient's back, when the instrument is put in position. In this socket, and also fixable by clamp-screw, runs backwards and forwards a square rod (*l*) perforated from end to end. At its extremity nearest the patient is a horizontal rule (*k*) which rotates glibly on a little nut, and from the centre of which runs an indicator needle 4 inches long that plays over a graduated sextant of the same radius; moreover the quite smooth perforation in this rod carries a well-fitting wire with a bluntly conical end (*m*).

To gain information from this part of the instrument we proceed thus: The skin over the middle of the sixth, seventh, and eighth dorsal vertebræ is marked by a moistened aniline pencil and the end of the wire is touched with ink. Then the instrument being brought into position as above described the third sliding rod is drawn out till the revolving rule is on a

level with one of these dots and is fixed by a turn of the clamp-screw; the patient is directed to clasp the hands and place them over the centre of the hypogastrium. The surgeon then pushes forward the horizontal square rod; if there be no rotation of the spine, the rule which revolves on it remains square to the rod, and the indicator stands at 0. But if there be rotation, *i. e.* if one side of the thorax be on a plane posterior to the other, one end of the rule will be pressed backwards, and when the rod has been extruded so far forward that the rule is in contact with the back at both sides of the spine, the indicator will mark on the sextant the amount of rotation in degrees and fractions. The wire is then pushed forward, and the mark, which it makes on the skin will be a certain distance to the side of the pencil mark over the tip of the spinous process; this distance can be measured with compasses and checked upon the rule. It need scarcely be added that the same mode of measuring the deviations should be employed also at the loins, and if the surgeon please he can measure the amount of rotation and lateral deviation of every vertebra, as also the relative height of the scapulæ.

These measurements should be written in the note-book, so that instead of trusting merely to memory as heretofore, the surgeon keeps a mathematical record such as reduces this part of his practice almost to the accuracy of an exact science.

May I request the attention of this Society for a few moments more that I may speak of that position of the pelvis which I referred to as hitherto unnoticed?—unnoticed, I suppose, because of a natural disclination on the part both of surgeon and patient to strip the whole figure, but which by the aid of this instrument I detected without that unpleasant resource. I found when I first began to use this instrument that in many cases the central part of the pelvis—the rima natium—lies on one side of the lower rule, that is to say the middle line of the pelvis does not lie perpendicularly over the gap between the feet. In every instance in which I found this I tested its correctness with the plumb-line dropped from the above named rima, which always verified the peculiarity, the lead falling often outside the centre of the left heel (in right dorsal curvature), and in some severe cases outside the left heel altogether. A little further description of this position and of its bearing on certain phenomena which though noticed have hitherto been misinterpreted appears desirable. It has long been known that in dorsal curvature the upper or thoracic portion of the figure looks as though shifted *en masse* upon

the pelvic portion; but the appearance, though it has given rise to a distinction which certain authors make between "upright" and "oblique" curves, has been left unaccounted for. By the detection of this pelvic position I not only explain the appearance, but also show that it is not the upper that has become displaced on the lower half of the trunk, but the pelvic portion, which has moved away from its proper position perpendicularly under the thoracic segment of the body.

This position, which I will take leave to name the "amesial pelvis," connotes, of course, that the nether limbs do not stand perpendicularly to the floor, in other words, they and the interval between them slope from the malleoli upward and to the left (in right dorsal and left lumbar curves); nevertheless, unless one leg be also longer than the other the pelvis is horizontal. It need hardly be pointed out that the line of the spine cannot continue upward in this oblique direction of the lower limbs. The whole trunk, in order to maintain balance, must be thrown over to the side from which the limbs slope. Hence is produced a rather sharp curve of the loins to the left when the pelvis is amesial in that direction, and to the right when the contrary deviation is present; either form of lumbar curve is associated with a curvature of the dorsal region to the opposite side. Therefore, if a plumb-line be dropped from one of the upper dorsal vertebræ to the floor the lead will nearly always be found to be in the interval between the malleoli, the cord crossing the spine about the tenth vertebra, but with that exception all other parts of the figure, which ought to lie mesial, will be away from the true middle line, the upper portion (in the more usual form of curvature) to the right, the lower portion, including loin and pelves, to the left. This produces the condition I have already referred to as a shifting of the upper on the lower segment of the figure, as also that which has been named an oblique curvature.

Certain questions of causation must for the present remain undecided, namely, whether the amesial pelvis is a cause or a consequence of the spinal curvature, and if the former by what condition, be it habit or formation, it is produced. My own conviction is that it is not a consequence but a cause of curvature, but at present I confess myself unable fully to explain the origin of the condition. Nor am I at the moment prepared to say in what percentage of dorsal curves this condition obtains, but certainly in a very large one. I have also learned that when it is present but unrecognised, cure of the curve is

difficult and slow; but when discovered and subjected to treatment the curvature becomes much more amenable. I shall very shortly seek another opportunity of explaining the proper treatment of the condition.

XIV.—*A case of extreme Osteo-arthritis of both hands.* By J. K. Fowler, M.D. *Exhibited April* 26, 1889.

M. W., æt. 71, a tailor, native of Nassau. The patient has no knowledge of his family history. He served in the German army in the Schleswig-Holstein War and was much exposed to cold and wet. In 1851 he came to London, and in the same year had gonorrhœa and syphilis with a secondary rash.

In 1852 he was laid up ten days in the German Hospital with acute rheumatism, many joints were affected. He has since been subject to joint pains in cold and damp weather. In 1877 he was an in-patient of the Middlesex Hospital for seven weeks with an atack of acute rheumatism. He has no recollection of any severe pain in the joints of the hands either during that illness, or since, but when he left the hospital the hands were stiff and he could not dress himself. He was not able to walk until twelve months after his discharge, and did not resume work until six months later. He then noticed that his hands were not straight and that he could not get his fingers into the proper line. After two years of work the deformity had increased to such an extent that he could no longer flex the little fingers. He has not observed any change in the hands during the last two years. The toe-joints are also distorted but none of the larger joints are affected. He is the subject of emphysema and chronic bronchitis; the heart-sounds are normal, the urine is free from albumen. The hands present the changes typical of chronic rheumatic or osteo-arthritis in a very advanced stage. The deviation of the fingers to the ulnar side is so extreme that the index fingers are at an angle of 45° with a line through their metacarpal bone, and the deviation is increased towards the little fingers, which stand out at right angles. The knuckles are large, rounded, and formed entirely by the heads of the metacarpal bones, which are possibly somewhat increased in size. The bases of the corresponding phalanges lie in front, and to the ulnar side of their proper articulating surfaces, those of the

5th (proximal) phalanges, completely dislocated from their articulation, lying in contact with the ulnar margin of their metacarpals just below the head, and at right angles to the normal axis. The proximal phalanges of the middle and ring fingers of the left hand are slightly flexed, and the middle phalanges extended, rendering the joint concave to the dorsal aspect. The distal phalanx of the left middle finger is slightly flexed and twisted toward the ulnar side. The palms are flat, the thenar and hypothenar eminences wasted, and the interossei atrophied.

XV.—*A case of Traumatic Cephalhydrocele.* By G. H. Makins. *Exhibited April* 26, 1889.

THE patient was exhibited to the Society on November 12, 1886, and the condition at that time is recorded in vol. xx of the *Transactions* at page 253.

Since that date the local and general symptoms have undergone some modification.

It was noted in February, 1887, that the bony ridge marking the borders of the original hæmatoma was increasing in size, but at present it is somewhat smaller than at that date, and the fissure which at that time ran down into the temporal bone has now closed. The characters of the tumour remain otherwise unaltered.

In 1886 the left side of the body was slightly smaller than the right, but there was no appreciable shortening of the lower limb, no rigidity, and the patellar reflexes were normal.

At present the left lower extremity is half an inch shorter than the right, and from half to three quarters of an inch less in circumference in mid-leg and thigh. The limb is slightly rigid, and the tendo Achillis so much so as to lead to slight talipes equinus. The patellar reflexes are brisk on both sides. The left forearm, arm, and hand are all smaller than the right, and there is very slight rigidity when passive movements are made. Common sensation is perfect, also appreciation of heat and cold in both limbs. The child is bright and intelligent, above the average in fact, and never suffers in any way. The optic discs and retina are normal.

The fact of the somewhat more marked symptoms existing

in the lower extremity is consistent with the localisation of the injury, as judged of by the presence of the tumour.

The tumour just reaches externally to half an inch behind the mid-point of a line drawn from the glabella to the inion, and in its outward extent it passes transversely, narrowing as it proceeds. Under these circumstances it forms an angle with the direction of the fissure of Rolando, the apex of union corresponding to the upper extremity of the fissure. It may be remarked that in spite of the fact that the injury was probably more directly over the posterior part of the parietal lobe no disturbance of sensation can be detected.

XVI.—*Case of Double Pirogoff's Amputation.* By G. H. Makins. *Exhibited April* 26, 1889.

THE feet were amputated in December, 1883. Patient could stand on the stumps at the end of six months, and resumed his occupation as a gate-keeper at the end of a year. The amputations were necessitated by a symmetrical railway crush of the feet. He can now walk three miles at a stretch, and except for a slightly ataxic type of gait his artificial feet would not be suspected. He is on duty nine hours daily. He is half an inch taller than before the operation.

XVII.—*Case of Hemiatrophy of Tongue with paralysis of soft palate following an injury to the upper cervical spine, and (?) to the rim of the foramen magnum.* By Thomas Barlow, M.D. *Exhibited April* 26, 1889.

STEPHEN W., a neglected child, æt. 7, was brought to the Hospital for Sick Children, Great Ormond Street, on February 1, 1888, by a friend who could give very little account of him. By degrees from his relatives a history was obtained, but there are important gaps in it which cannot be filled up. The child was regarded as healthy until two and a half years

before admission, when he was thrown out of a wheelbarrow and fell on his head. It is stated that there was no bruising, and the boy only complained subsequently of pain and stiffness of the neck. He was taken to the Great Northern Hospital on account of these symptoms, but the date cannot be given. Twelve months after this accident he was admitted to St. Bartholomew's and remained there for three months, wearing a jacket and being kept in bed. The child was much more comfortable after this, but still kept his neck stiff.

Nothing was noticed wrong with his tongue whilst in St. Bartholomew's Hospital. During the last twelve months he has been much neglected owing to his mother's death. For one month past he is stated to have had difficulty of swallowing, and a strange sort of cough. During this time it has been noticed that when he drank, fluids sometimes came back through his nose.

The boy when brought to me was much emaciated. The head was held fixed and inclined towards the right shoulder; there was considerable interference with rotation, more on the right side than on the left, although the nodding movement was preserved. The right trapezius seemed a little less developed than the left. There was no pain elicited on gentle percussion of the neck, but it was clear that there was alteration of relation of the upper cervical vertebræ. As there was a little deep thickening and we were reluctant to explore too closely, we could only form the opinion that there was probably some disease of the upper cervical spine. There was no retro-pharyngeal swelling or sign of abscess in the neck. In the lumbar region there was a little lateral curvature, and slight angular curvature also, with prominence of the second lumbar spine.

The most remarkable symptoms were those referred to the mouth cavity and throat. First, in regard to the tongue, the right half was found to be considerably smaller than the left.

The wasting was most marked in the middle third of the right half; the mucous membrane there, was thrown into loose folds as though the central portion was not full enough to keep the shape of the tongue intact. The muscular fibres, however, were by no means completely atrophied because there was a certain amount of fibrillary tremor to be seen. In the anterior third there was also marked wasting, but the mucous membrane was smooth and did not present any rugæ. When the tongue was protruded there was a little deviation

towards the right. The sense of taste on the right side seemed on the first occasion when tested to be somewhat defective, but I doubt whether the examination was satisfactory.*

The soft palate was unduly pendulous, and did not present the normal characteristic pit on each side when the patient uttered the sound *ah*. When liquids were given there was occasionally slight regurgitation through the nostrils, and when there was no regurgitation the effort of swallowing frequently gave rise to a slight cough, and the boy was careful to take very small quantities of fluid at a time. The voice was rather weak and somewhat nasal in character and the cough had the remarkable ineffectual quality which indicates imperfect closure of the glottis.

The chest movement was somewhat deficient; there was no dulness in front but some impairment behind and abundance of râles, which were rather sharp, especially below the left scapular angle.

There were no abnormal abdominal signs and there was a singular absence of nervous signs beyond those which have been mentioned. Thus there was no alteration of the fundus oculi and no ocular paralysis or loss of accommodation. One pupil was slightly larger than the other, but both responded to light and accommodation. The facial on both sides was intact and so were both sensory and motor divisions of the fifth. The grip of the two hands was equal. The lower limbs were thin but not out of proportion with the rest of the body. The knee-jerks were normal and there was no sign of paralysis of movement or sensation. The sphincters were natural. During the six and a half months that the boy was in hospital the temperature, taken morning and evening, was for the most part normal. On one occasion only it reached 100°.

He was kept lying in the horizontal position with the head fixed for more than four months, and then very cautiously allowed to sit up with support, and after five months was allowed to walk a little. The improvement in his general nutrition brought about by strict rest and food was very remarkable. At the end of two months there was marked improvement in the movement of the palate, but even at the end of five months the voice remained slightly nasal and he still occasionally coughed directly after swallowing. The

* The sense of taste, as well as the tactile sense, are quite accurate on the two sides now (April 26, 1889).

chest signs had almost cleared, but the tongue condition remained unchanged.

At the end of six months he was able to run about without difficulty and was sent to the Convalescent Department.

I have seen him at intervals since, and may briefly state what is the present condition of the boy as demonstrated this evening (April 26, 1889), about fifteen months after the period when he first came under my observation. The spines of the cervical vertebræ are much more easily felt than they were, but it is now quite clear that the atlas and axis are in a plane anterior to their normal situation. The head is habitually held a little inclined towards the right shoulder.

The nodding movement is quite free, but rotation is still a little interfered with, especially towards the right. The boy can shrug his shoulders well on both sides, and the neck-muscles seem now fairly developed, the right sterno-mastoid being generally a little contracted but not rigidly so.

The two sides of the palate move equally and naturally; there is no abnormality of swallowing or speech. The condition of the tongue is unchanged, and is well shown in Mr. Lewin's drawing (Plate XIII). There is still marked atrophy of the right half, most striking in the middle third. The rugæ remain and the febrillary tremors are still to be seen. I have tested the two sides of the tongue with feeble faradic and constant currents.

The right side definitely responds to weak faradism, but there is much less movement than on the left, possibly because there is less bulk of muscle. To the weak constant current there is response, but as in a normal muscle there is better response to negative closure than to positive closure.

The boy can discriminate bitters, sweets, and aromatics quite distinctly with the right side of the tongue as well in fact as he can with the left. I fail now to detect any signs of disease of the chest. His general nutrition is fair, but there is still some prominence of the second lumbar spine. No indications are present of any abscess or weakness of the lower limbs.

Remarks.—The symptoms presented by this boy puzzled me exceedingly, and I am still in doubt as to the complete explanation of some of them. The lung condition (extensive bronchitis with slight local impairment and a little bronchial breathing), the emaciation, the indication of damage to the cervical spine and the slight prominence of the lumbar spine suggested at first that it was a case of generalised lung

tuberculosis with some spinal caries also presumably tubercular in nature. But it is certainly remarkable that during the boy's stay in hospital he was all but free from pyrexia and that the lung condition has, so far as I can judge, completely subsided. It is also noteworthy that there has been no enlargement of the lymphatic glands of the neck. The history given of the case, imperfect as it was, seemed to point to a traumatic origin, and I think the most reasonable hypothesis is that there was some fracture and slight dislocation of atlas and axis with possibly some injury to the rim of bone forming the foramen magnum.

The exact date of onset of the tongue lesion cannot be determined. It is possible that it may have arisen, not from the original injury, but from cicatricial processes subsequently induced. But in any case the damage, whether primary or secondary, seems to have involved the right hypoglossal nerve near its root. In the third volume of the *Transactions of the Clinical Society* a case is reported by Sir James Paget in which atrophy of one half of the tongue occurred subsequently to a partial fracture of the atlas and the occipital bone. From some sinuses in the back of the neck some pieces of bone were at length removed, one of which proved to be part of the rim of the foramen magnum. In Sir James Paget's case the tongue ultimately recovered its natural size.

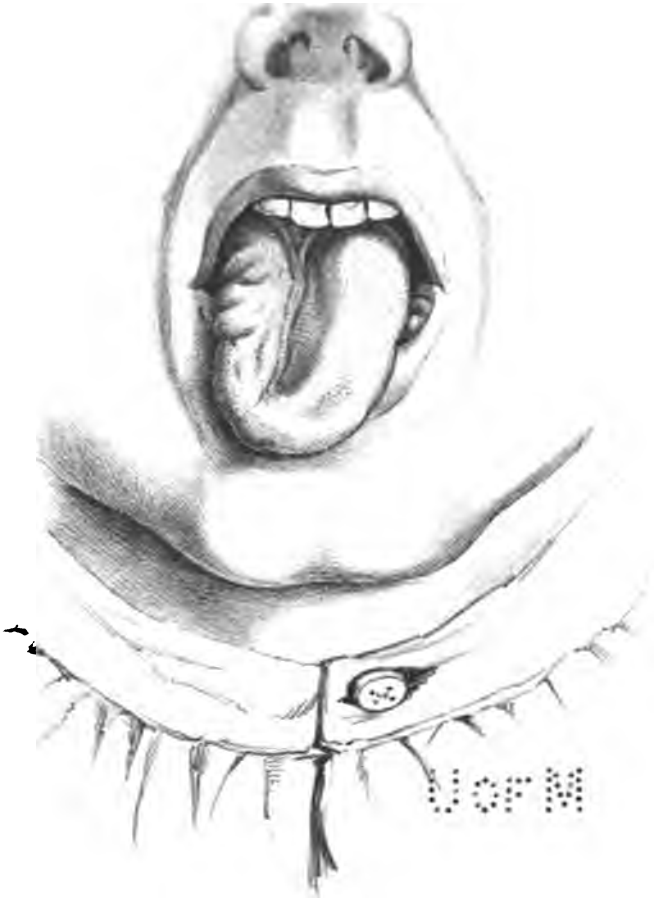
It remains to be seen whether this little boy's tongue will recover, but in the meantime the one-sided atrophy gives him no trouble.

The flaccid condition of the palate, with the slight difficulty in swallowing, the occasional regurgitation of fluids through the nostrils, and the nasal speech seem to have been due to damage to those fibres of the spinal accessory which, according to the recent experiments of Horsley and Beevor, may be fairly assumed to innervate the muscles of the palate.

Although I did not attempt to make a laryngoscopic examination in this child, I have no doubt, from the ineffectual "empty" character of the cough, that there was an imperfect performance of that preliminary closure of the glottis which normally precedes the act of effective coughing. And inasmuch as the larynx has its motor supply from the spinal accessory fibres it is, I think, fair to connect the above symptom, as well as the change in the palate, to damage of the spinal accessory nerves. Is it possible that the lung condition was a sort of waterlogged state dependent on this imperfect closure of glottis preliminary to the cough?

PLATE XIII.

To illustrate Dr. Barlow's case of Hemiatrophy of the Tongue following an Injury to the upper part of the Cervical Spine.



H. Lewin, del.

Danielsson & Co. lith.

The resemblance of this case, so far as palate and glottis were concerned, with one of diphtheritic paralysis was very striking indeed. But there were two notable differences: (1) that in this case there were no ocular paralyses or failure of accommodation, and (2) that the knee-jerks were normal throughout.

XVIII.—*Case of Myxœdema.* By Arthur Davies, M.B. *Exhibited May* 24, 1889.

SUSAN P., æt. 40, born in Kingsland, London. Married, ten children, six alive, two stillborn, two died of bronchitis. Has herself always enjoyed good health. Father and mother both alive and in good health. Herself and one brother are the only two living out of eight children, the rest having died in infancy. She began to complain about five years ago of shortness of breath and pain in the chest. At the same time she noticed or was told by her friends that her face was beginning to swell, which was especially noted in eyelid, nose, and lips. She also noticed commencing difficulty in articulation; for twelve months she complained of some giddiness on walking; has not suffered from cold, but noticed dryness of skin; no loss of memory. The swelling in the hands was noted four months before coming under observation so that she was obliged to have her rings taken off. She became slower in action and thought than formerly.

Face is generally swollen, characteristic tint on cheeks, sharply defined; the eyelids present a pearly, wrinkled, œdematous appearance, the alæ nasi are somewhat thickened, teeth and gums are normal. The expression is very placid and blunted, articulation slow, voice monotonous. The hands are clumsy and the skin dry. The hair on vertex is not diminished; there is fulness above the clavicles, but the thyroid is not palpable. Chest normal, patellar reflexes diminished (a few moles to be seen on the face); sensation impaired.

XIX.—*Case of Chronic Arthritis in a child, characterised by fibrous contraction of several joints and associated with some thickening of the middle of each tibia and with marked enlargement of groups of lymphatic glands.* By THOMAS BARLOW, M.D. *Exhibited May* 24, 1889.

ALICE A., æt. 11½, was admitted to the Hospital for Sick Children, Great Ormond Street, on April 23, 1889, on account of contractions of several joints with pains in them.

Family history.—Father died three years ago in Colney Hatch Asylum. He had been more or less insane for eight years; had at first symptoms very like drunkenness, delusions of grandeur, but a little before his death he became homicidal. One of his sisters suffered from St. Vitus's dance. There was no history of gout or rheumatism. Mother was also free from gout and rheumatism. She has had seven children, of whom six are living and healthy. One child, died aged nine months, from inflammation of the lungs. There have been four miscarriages alternating with the last four living children, and there has been one stillbirth.

Previous history of the patient.—She was a full-term healthy infant; was weaned at sixteen months. She has had whooping-cough, measles, and chicken-pox. The last-mentioned occurred when she was five years old. No other illness of importance.

History of present illness.—Twelve months ago the mother found that the child could not get up from the sitting posture without pain. The pain was greatest in the knees but subsequently extended to other joints. At the same time the knuckles were found to be swollen and tender. She was taken to the infirmary at Norwood and remained there one month, and after an interval was readmitted and remained there six months, but the mother says without benefit. She has got weaker and thinner, and unable to walk more than a very short distance. Her appetite is poor and she is constipated.

Present condition.—She is a dark-haired, pale child of good mental development and free from any congenital bodily defect. She is very thin and has wasted a great deal, but the covering of her limbs, especially of the upper limbs, is tough

and firm. There is no actually *glossy skin*, and yet the attempt to squeeze up the skin and subjacent tissues of the arm and forearm suggests approximation to the "hide-bound" condition. The palms are generally a little cold and moist. Sometimes the dorsal surface of the knuckles presents slight bluish discolouration, but the finger-tips are white and tapering. There is no anæsthesia, and no definite nerve tenderness. The muscles of the upper limbs are much more wasted than those of the lower, and those of the front of the forearm and the inner aspect of the arm rather more wasted than those of the extensor aspect. The muscles of the palm are considerably wasted, but all these muscles respond fairly well to faradism.

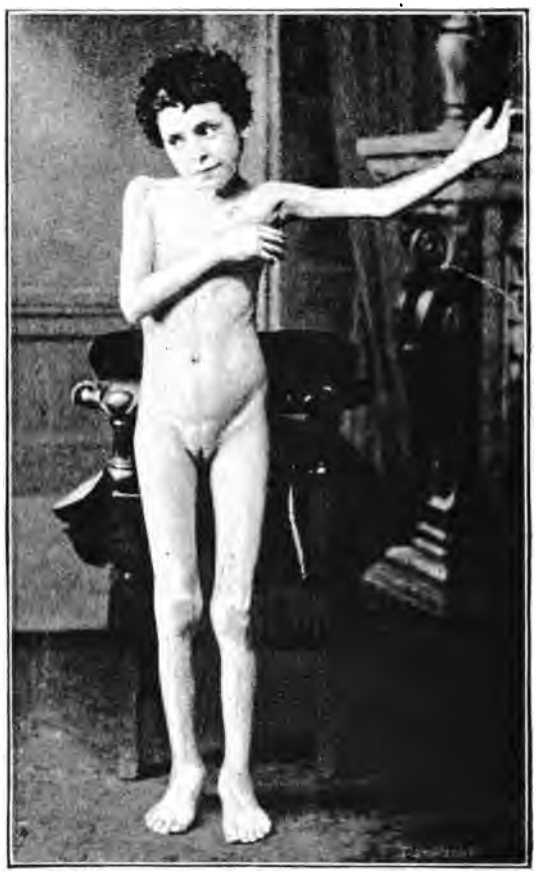
Joints of upper limbs.—The sterno-clavicular joints are natural. There is a little limitation to upward movement of both shoulders, but no grating can be obtained. There is decided limitation of movement of both elbows. They cannot be completely extended, and this, together with the wasting of the forearm-muscles, gives a certain concavity to the whole anterior aspect of the upper limbs. I am inclined to think that the long axis of each ulna, and in less degree of each radius, is slightly altered in the sense of being a little concave anteriorly.

The child can pronate well but cannot supinate completely. Forcible supination or extension of the elbow gives pain. There is slight prominence over the back of each wrist, due, I think, to a little effusion in the sheaths of the tendons. Both flexion and extension of both wrists are limited and painful, and there is a little tendinous (?) creaking on the left side. The palmaris longus tendon on both sides just above the wrist shows some very minute nodular thickenings. The condition of the hands is well shown in the photograph. There is hollowing of the palm, the metacarpo-phalangeal joints are slightly flexed, the middle phalanges are extended, the terminal phalanges slightly flexed. The extremities of the metacarpal bones and of the phalanges are not enlarged, and there is only the slightest possible indication of ulnar deflection of the digits on the right side.

In the lower limbs there is less atrophy and induration of the soft parts than in the upper. The hip-joints seem natural. There is some pain and limitation to flexion of the knees. The child lies in bed with her lower limbs extended; when she walks she takes short steps and does not bend her knees properly. There is a slight nodular thickening about the upper

edge of each patella, and occasionally a little (?) tendinous creaking to be got on manipulation.

FIG. 28.



Chronic arthritis, showing contractions of finger joints, wrists, and, to slight extent, of elbows in flexed position. No enlargements of ends of bones. Some atrophy and slight "hide-bound" condition of muscles and skin. Torticollis on right side. Some thickening of middle third of each tibia. Lymphatic glands enlarged, especially in left axilla and right Scarpa's triangle.

¶ The middle third of each tibia on its inner aspect is definitely thickened. This is more marked on the right side

than on the left. There is no tenderness or redness of the skin over this thickening. The thickening is rather massive in character although it is only slight in amount. There are no projecting eminences but rather a rounded smooth elevation.

There is slight limitation of the ankle movements but no deformities of the ends of the tibiæ or of the bones of the feet.

Back.—There is a little torticollis (shown in the photograph). The chin is pointed towards the left shoulder, the face looking directly forwards. The child has difficulty in turning her chin towards the right shoulder, but she can depress the head towards the shoulder. Though the right sterno-mastoid comes into marked relief when the child stands up, it is quite supple when she lies on her back.

Nothing definitely abnormal can be felt about any of the cervical vertebræ. Except for the torticollis the back seems natural. There is a little limitation to the up and down and lateral movements of the lower jaw but the child can chew well.

In general it may be said with regard to the joint structures that there is very little spontaneous pain and that the child has good nights, but there is pain on attempting to overcome any of the contractions. This applies to the neck, the elbows, and most of all to the wrists and fingers.

Next in importance to the joint structures and the thickening of the tibiæ comes the condition of the lymphatic glands. Several of the superficial glands are enlarged. About one inch above the internal condyle of the humerus the usual gland in that situation is enlarged. In the left posterior triangle they are slightly enlarged, also two above the middle of the left clavicle. In both axillæ they are considerably enlarged, and along both Poupart's ligaments and in Scarpa's triangle on the right side. The glands are, however, discrete and there is no tenderness or redness over them.

There is no sign of cardiac or pulmonary disease. The blood, estimated shortly after admission, gave 28·5 red corpuscles per square instead of 50, and one white corpuscle to 171 red instead of 1 to 300.

The child has not a good appetite and is a long time over her food, perhaps partly because the movements of the jaw are a little impaired. The right side of the tongue is deeply indented, but I think this corresponds to the impressions of the upper teeth, which are crowded and overlap one another. She is a little constipated. There is no abnormal abdominal sign except that the child passes too little urine. For seven-

teen days after admission the quantity in twenty-four hours varied between 8 oz. and 16 oz. The specific gravity was 1020 to 1022. There was no albumen, but the percentage of urea was low.

Remarks.—I have seen a few cases of rheumatoid arthritis in children in which the swelling of the soft parts about the joints was very considerable, resembling the exuberant form of the disease which is met with in young adults. But the present case is quite different in character. The main features here are the contractions in the flexed position without enlargements of the extremities of the bone or sign of grating, but with marked atrophy and induration of the muscles and skin. The minute nodules on each palmaris tendon, and the slight effusion in the sheaths of the tendons on the back of each wrist deserve notice as almost the only indubitable rheumatic features. The very slight amount of pain, except when attempts are made to overcome the contractions, is very noteworthy. The slight massive thickening of the tibiæ, and the general enlargement of lymphatic glands are also noteworthy, but how far they are essential it is impossible to say.

In the case of a little boy lately transferred to my care by my colleague Dr. Sturges there was not only ankylosis of many joints with enlargement of lymphatic glands, but also splenic enlargement. On post-mortem examination, besides a considerable amount of fibrous ankylosis, there was in some of the joints considerable overgrowth of the synovial fringes with some absorption of cartilage, but there was no development of lip-like osteophytes and no exposure of articular ends. The shafts of the bones were somewhat atrophied. In both these cases there was just a possibility of syphilis being present, but I cannot say more than that. I have seen another case very like the one now exhibited in a little girl in which contractions of many joints with atrophy, &c., came on after an acute specific disease, probably measles; the morbid condition was progressive for a time and then remained stationary. I may also mention that a case very like this was shown in the early part of this session to this Society by Dr. Pasteur in which there was the same fibrous ankylosis and atrophy of soft parts with tendency to hide-bound conditions. Attractive as the hypothesis might be of a nervous origin for these cases there is, so far as I can see, no proof of primary involvement of nervous structures either central or peripheral.

It appears to me that at present we are not in a position

to classify them, but that we must content ourselves with recording their clinical characters as completely as may be with the hope that their etiology and true affinities may by degrees become unfolded.

Addendum (July 1, 1889).—I have treated this child with lamp baths every second or third day, followed by tepid sponging and also with hot douches, inunction with oil, and passive movements for the wrists and fingers.

It is too early to speak of the ultimate result, which I fear will be unsatisfactory. The movements are, however, decidedly a little freer than they were, and the child bears the treatment well. The body weight has not increased, but the child passes more urine since the baths were commenced. The quantity now averages about 19 oz. daily. The last estimation of the number of red blood-corpuscles to the square showed some increase, viz. 38 per square as compared with 28·5 on admission.

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SUPPLEMENTARY REPORTS

IN CONTINUATION OF THE

REPORTS OF CASES

RECORDED IN THE

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VOLS. I—XXI.

COMPILED BY A

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MEMBERS OF THE COMMITTEE.

DR. ABERCROMBIE AND MR. BOWLBY.
DR. CROCKER AND MR. SILCOCK.
DR. FINLAY AND MR. CLUTTON.
DR. MAGUIRE AND MR. POLLARD.
DR. PRINGLE AND MR. TURNER.

CHRISTOPHER HEATH, *President.*

Ex-Officio

THOMAS BARLOW, M.D.,
ROBERT WILLIAM PARKER, } *Hon. Secs.*

PREFACE.

At the suggestion of the President, Mr. Christopher Heath, the Council decided (March, 1889) to appoint a Committee to collect additional information concerning the cases, the records of which, though as complete as possible at the time they were published, might be amplified by their further history and later developments.

The twenty-one volumes of *Transactions* hitherto published by the Society have been carefully looked through, and the information obtained is arranged in the following report.

The authors of some of the cases recorded in the earlier volumes are dead, other authors have not returned the circular issued by the Committee; thus there are still many gaps unfilled, and cases incomplete.

In some instances the information obtained is entirely of a negative character, many of the patients not being traceable. Notwithstanding, some valuable additional notes have been collected.

The Committee consisted of ten gentlemen, and it was arranged that a physician and a surgeon should work together. The Council feel that the Society is greatly indebted not only to this Committee, for the time and trouble they have bestowed on the work, but also to those authors who have assisted in making the records of their cases as complete as possible.

August 1st, 1889.

SUPPLEMENTARY REPORTS.

VOL. II.

PAGE 104, No. XXI.

Case. A form of Enlargement of the right leg and thigh, with an occasional discharge of chylous fluid.

Supplementary Report, received from Dr. DAY.

"See vol. xi, p. 214. Sequel and fatal termination of a case of Lymphatic Enlargement of the right leg and thigh."

PAGE 114, appendix to preceding.

Case of Varicose Lymphatic Vessels of the right Lower Extremity.

Supplementary Report, received from Mr. BERKELEY HILL.

"No further intelligence obtainable."

VOL. III.

PAGE 118, No. XXVI.

Case of True Keloid of Alibert.

Supplementary Report, received from Sir DYCE DUCKWORTH.

"The patient died about two years after the foregoing Report was made. No noteworthy change, I believe, occurred

in the keloid growth. My present belief is that it originated in some trifling scar, and a much enlarged experience of the disorder since this case was recorded appears to me to warrant Mr. Hutchinson's opinion that the Keloid of Alibert is most often a disease of scar-tissue."

VOL. V.

PAGE 4, No. II.

Two cases of Lupus.

Supplementary Report, received from Mr. NUNN.

"I have seen to-day J. A., Case No. 1. The face remains healed. On one or two occasions there was some slight return of the symptoms, which soon subsided. The patient has from time to time resorted to the Woodhall Spa water as in his treatment of 1870. The patient's father died æt. 86. His mother is still living, being now æt. 80. The patient tells me that his father never had to resort to his 'Club' but once in his life, and that was only for a fortnight. Previous to the birth of the patient his mother had several miscarriages and dead children. The patient is now æt. 53, but his hair is not grey, and he is but very slightly aged. I think it possible that there may have been some *hereditary* syphilis in the mother's constitution."

PAGE 27, No. VI.

Three cases of rapid Contraction of Cavities in phthisis.

Supplementary Report, received from Dr. THEODORE WILLIAMS.

"I have no report of Case 1.

"The sequel of Case 2 is given in vol x, p. 27, which contains an account of the autopsy.

"The sequel of Case 3 was as follows:

"The last note left the patient well, with a contraction of cavity in the right lung and a discharging fistula in ano. He married a year later, and improved further in health up

to 1875, when the discharge from the fistula was less free, and in December of that year it ceased. From that date the disease appears to have become more active in the lungs. The left lung showed signs of tuberculisation, and over the right, crepitation was audible in parts. Increase of cough and expectoration. Wasting and night sweats followed. Cavities gradually formed in both lungs, in the right at a lower level than the former one; the larynx became affected with tubercle, and the patient gradually deteriorated and sank, dying December 16, 1878, eight years from the beginning of his illness. No autopsy could be obtained. The case was a good example of the good influence of a discharging fistula in phthisis."

PAGE 62, No. XIII.

Case of Cardiac Disease after rheumatism.

Supplementary Report, received from Dr. HABERSHON.

"I am sorry that I cannot give further particulars of the case of heart disease that I brought before the Clinical Society."

PAGE 69, No. XV.

Case of Paralytic Strabismus cured by tenotomy and localised faradization with the primary current.

Supplementary Report, received from Mr. BRUDENELL CARTER.

"In this case the patient appeared to be quite well when exhibited to the Society, and I have not seen or heard of her since that time. In all probability she would have returned to the hospital if anything had been amiss."

PAGE 127, No. XXI.

Two cases of Recto-Vesical Fistula treated by colotomy.

Supplementary Report, received from Mr. BRYANT.

"Case of Mr. T., æt. 64, operated upon August 16, 1869. Died March, 1875, or five and a half years after the operation, from ruptured heart. No fæces passed through

the rectum or bladder after the operation of colotomy. After death the ulceration of the rectum was found to have quite healed although the recto-vesical fistula existed. The urine in this case occasionally passed into the rectum, and on some few occasions, when the patient was in the horizontal position, it flowed out of the lumbar colotomy wound.

"This patient constantly told me that the inconvenience of the lumbar opening was so slight that he would not have it closed even if it were thought desirable.

"Case of Robert R., æt. 49, operated upon July 5, 1870. On May 20, 1884, or nearly fourteen years after left lumbar colotomy, this patient wrote :— 'I am glad to inform you that the operation has been quite successful as it has added nearly fourteen years to my life. I am quite free from pain, and I feel as strong as if nothing was the matter with me. The contents of the bowels all pass through the opening in the back, nothing passes into the lower bowel except some water from the bladder. This, however, is of no trouble.'

"A letter of inquiry lately forwarded has been returned with, 'left address, and new address unknown.'"

PAGE 146, No. XXIV.

Case of Unilateral Face Atrophy after chorea.

Supplementary Report, received from Dr. BUZZARD.

"The patient has been lost sight of, and nothing further is known about her."

PAGE 207, No. XXXVII.

Case of Excision of Tarso-Metatarsal Joint.

Supplementary Report, received from Mr. T. HOLMES.

"This man was readmitted in March, 1878, with diseased bone in the situation of the old operation, extending also to the rest of the metatarsus. An attempt was made to remove the diseased bone with the gouge, but it was found that the tarsal bones were also diseased, and Syme's amputation was performed on June 27. He made a good recovery."

VOL. VI.

PAGE 13, No. III.

Case of Caries of the Knee-joint treated by the local action of sulphuric acid.

Supplementary Report, received from Mr. HAWARD.

"I am unable to furnish any further particulars of this case."

PAGE 85, No. XVIII.

Case of Soft Malignant Tumour of the parotid region.

Supplementary Report, received from Mr. ARNOTT.

"The patient cannot be traced."

PAGE 90, No. XXI.

Two cases of Thyrotomy for the removal of growths from the larynx.

Supplementary Report, received from Mr. PUGIN THORNTON.

"Sequel of Case 2 is given, with woodcut of larynx, in the *Pathological Society's Transactions*, vol. xxvii (1876), p. 293."

PAGE 195, No. XLIII.

Case of Right Hemiplegia occurring suddenly during pregnancy.

Supplementary Report, received from Dr. EDIS.

"Patient lost sight of."

VOL. VII.

PAGE 3, No. II.

Cases of Spasmodic Asthma treated by chloral.

Supplementary Report, received from Dr. THEODORE WILLIAMS.

"I regret to say that I have quite lost sight of the above three cases."

PAGE 42, No. VIII.

Cases of Temporary Albuminuria, the result of cold bathing.

Supplementary Report, received from Dr. GEORGE JOHNSON.

"The first of the four cases of temporary albuminuria recorded in my paper has been constantly under my observation, and I can state positively that there has been no return of the albuminuria, but of the subsequent history of the other cases I have no knowledge. Since the publication of my paper I have seen many cases of albuminuria consequent upon prolonged cold bathing."

PAGE 60, No. XIII.

Case of Sarcomata of both Irides.

Supplementary Report, received from Mr. BRUDENELL CARTER.

"Soon after last report (July 21, 1874) the patient and his family left their former place of residence and I have never been able to obtain any tidings of them since."

PAGE 62, No. XIV.

Case of Orbital Sarcoma.

Supplementary Report, received from Mr. BRUDENELL CARTER.

"In 1880, six years after the last described operation, there had been no recurrence of the growth, and I admitted

the patient into St. George's Hospital in the hope of being able to close the opening of the orbital cavity by a flap transplanted from the forearm. The attempt was frustrated by sloughing of the flap; but the girl was under observation for another year, and the cavity was filled by a gutta-percha plug. She was then in excellent health, but for the last eight years I have not seen her."

PAGE 67, No. XV.

Cases of Aneurism of the Aorta.

Supplementary Report, received from Dr. DOUGLAS POWELL.

"I am sorry I can give no further report of the cases."

PAGE 93, No. XVIII.

Case of Blood-Cyst of the Hand.

Supplementary Report, received from Mr. HAWARD.

"I regret that I am unable to furnish any further particulars of this case."

PAGE 100, No. XX.

Case of Neuralgia treated by stretching the median nerve.

Supplementary Report, received from Mr. A. BOWLBY.

"No further information obtainable."

PAGE 104, No. XXI.

Case of Neuralgia of the Hand, treated by amputation of the little and ring fingers, &c.

Supplementary Report, received from Mr. A. BOWLBY.

"No further information obtainable."

PAGE 155, No. XXX.

Case of Rupture of Aortic Valve.

Supplementary Report, received from Dr. BURNEY YEO.

"The subsequent history of this case will be found in the *Transactions* of the Pathological Society, vol. xxix, p. 62."

VOL. VIII.

PAGE 27, No. VIII.

Two cases of Reflected Irritation.

Supplementary Report, received from Mr. BARWELL.

"The former of these cases (a lad with unilateral trismus) has not been seen since the case was reported to the Society (1875), but as he was well at that time he probably showed no further symptoms.

"The latter case (a soldier with a neuroma producing epilepsy) was occasionally seen for three or four years after the report; he had no return of the fits."

PAGE 51, No. XV.

Case of a rare form of Skin Disease.

Supplementary Report, received from Mr. MORRANT BAKER.

"The sequel of this case, with an account of the microscopic characters of the disease by Dr. Thin, is contained in the tenth volume of the Society's '*Transactions*,' p. 198.

"Several cases of the disease have been since recorded under the name (suggested by Dr. Sangster) of 'Urticaria pigmentosa.'"

PAGE 68, No. XX.

Case of Naso-pharyngeal Polypus.

Supplementary Report, received from Mr. T. HOLMES.

"I see this man constantly. He is in perfect health, and

there has been no recurrence since the last operation more than fourteen years ago. It is now twenty-three years since the original operation."

PAGE 80, No. XXIV.

Case of Optic Neuritis with recovery.

Supplementary Report, received from Dr. THOROWGOOD.

"I am sorry to say that we have no further record of the case of optic neuritis. I have not heard of the child since it left the West London Hospital."

PAGE 98, No. XXVIII.

Case of excessive and long-maintained High Temperature after Spinal Injuries, with recovery.

Supplementary Report, received from Dr. J. W. TEALE.

"I have heard from Mr. HIND, of Stockton-on-Tees (who sent me a report, previously reported, of a relapse, during which he also had observed exceedingly high temperatures), that the lady continues in fairly good health, though not so strong as before her accident, and there is nothing further to report."

PAGE 104, No. XXIX.

Case of Hypertrophy of lower parts of the face.

Supplementary Report, received from Mr. BARWELL.

"This case was seen eighteen months after the case was read, he came from the country to show himself, and was taken for a night or two into the hospital. A slight further diminution had taken place, the general appearance had changed but little. He declined to undergo further operation."

PAGE 121, No. XXXIII.

Case of Disseminated Sclerosis.

Supplementary Report, received from Dr. BUZZARD.

"Nothing further is known of this patient."

PAGE 142, No. XXXVIII.

Case of Disordered Nerve Function in an infant.

Supplementary Report, received from Mr. T. SMITH.

"I am very sorry I can furnish no further particulars of this case."

PAGE 175, No. XLV.

Case of Arterio-venous Aneurysm of the Femoral Vessels, caused by a pistol-shot.

Supplementary Report, received from Mr. HULKE.

"The patient was seen last at a very long interval after the date of above report. With an elastic stocking he was well able to work at his trade. No obvious change had occurred in the disorder."

VOL. IX.

PAGE 5, No. II.

Case of Idiopathic Tetanus.

Supplementary Report, received from Dr. REGINALD SOUTHEY.

"This patient was not heard of by me after his discharge from the hospital, and nothing is known of his after-history."

PAGE 12, No. IV.

Case of extensive Wound of Knee-Joint treated by Lister's method: recovery with bony ankylosis.

Supplementary Report, received from Mr. PICK.

"There is nothing further to report about this case than that for several years after the accident he earned his livelihood as the conductor of an omnibus, having to stand on an

PLATE XIV.

To illustrate Mr. Hutchinson's case of Congenital Tumour of the Scalp.

U of M

Daniels on & Co. ath

average fourteen hours a day, and during that time his leg gave him no inconvenience. He subsequently became a stoker at a gas factory and was lost sight of."

PAGE 15, No. V.

Case of Congenital Tumour from arrested development of some of the bones of the skull.

Supplementary Report, received from Mr. HUTCHINSON.

"At the time of my original report the child, who had been the subject of premature closure of the skull, had a soft tumour bulging through the vertex, and passing a little to the left side. This I believed to be due to pressure of the growing brain under the bone. There was no proof either of new growth or of hydrocephalus. After my report the swelling continued to increase, and hung over the left ear, until finally a condition was presented which is fairly depicted in Plate XIV. I thought that the tumour contained brain substance and hydrocephalic fluid. The child did not suffer either in intellect or health. The mother was naturally very anxious that something should be done to cure it, and as I could not see my way to any operative interference, about three years after my report she took the child elsewhere. A surgical friend of bolder temperament than myself, but who had not had the opportunity as I had had of watching the gradual development of the swelling, ventured upon an operation; with the details of this operation I am unacquainted, but it involved laying open the tumour, and was followed by the death of the child a few days later. I believe that no complete autopsy was obtained. The information afforded at the operation confirmed, I believe, the diagnosis which I had made."

(For the discussion on this case see *Lancet*, Oct. 30, 1875.)

PAGE 30, No. X.

Case of Hip-Joint Amputation.

Supplementary Report, received from Mr. BERKELEY HILL.

"Some years later the patient was readmitted into University College Hospital after having supported herself and

husband by working at a sewing machine. Three months before her second admission she was readmitted with pain in left loin, the side on which amputation of the hip had been performed. Swelling was detected in that region, and being diagnosed as repetition of the sarcoma in the lumbar glands, no exploration was made. She died in a few weeks, and the kidney was found to be destroyed by tuberculous disease, and a small uric acid calculus lay in the pelves. No recurrence of the sarcoma had taken place. The amputation scar remained sound."

PAGE 51, No. XVI.

Case of Congenital Fatty Tumour.

Supplementary Report, received from Mr. VENNING.

"I have had an opportunity of seeing the patient to-day (May 1, 1889). I find that there has been no return of the growth."

PAGE 68, No. XXI.

Case of Acute Œdema of the Larynx.

Supplementary Report, received from Mr. PUGIN THORNTON.

"Complete recovery."

PAGE 78, No. 25.

Case of Morphœa.

Supplementary Report, received from Sir DYCE DUCKWORTH.

"This patient came under my observation from time to time up to 1887. He had latterly become the subject of constitutional syphilis. This yielded to treatment. The patch of morphœa underwent no changes of any note during the eleven years since the case was reported. The affected frontal integument became perhaps less rigid, and of somewhat more natural appearance. No change occurred on the scalp. The disease did not make progress. No hair returned. The atrophic changes appeared to be final and complete."

PAGE 94, No. XXVIII.

Case of Menière's Disease.

Supplementary Report, received from Dr. DUFFIN.

"This man subsequently became stone deaf, and when last seen was almost free from his vertigo."

PAGE 124, No. XXXIII.

Case of Cleft Palate. Treatment by operation and obturator.

Supplementary Report, received from Mr. NORTON.

"This patient soon learned to pronounce her words so perfectly that her deformity became scarcely recognisable.

"After five years the aperture suddenly began to increase in size with pain in the soft tissues around, and finally the cicatrix left from the operation gave way by ulceration. Mr. Norton did not repeat the operation, but had a vulcanite obturator fitted to the space in the hard palate with flexible soft vulcanite in the position of the soft palate."

PAGE 127, No. XXXIV.

Case of Headache and double Optic Neuritis with almost complete amaurosis, followed by recovery with partial restoration of sight.

Supplementary Report, received from Dr. GOODHART.

"This patient is still in good health. She is married, and has children. She was for some time engaged as a teacher in a Board school after her illness and managed very well. Her chief difficulty then as now was not in reading but in crossing crowded streets. If she becomes agitated or flurried her sight temporarily fails her."

PAGE 139, No. XXXVI.

Case of Subconjunctival Sclerotomy as a remedy for glaucoma.

Supplementary Report, received from Mr. SPENCER WATSON.

"Continuation of Case 2 (pp. 141, 142):—'1878, Nov. 1, V. R. J. 16, L. J. 16. With spectacles can read and do needlework. No return of glaucomatous symptoms.'

"Continuation of case of Elizabeth Brooks (p. 142):—This case was reported on at this Society in 1880, the result being perfectly satisfactory. I again reported the further progress of the case on Feb. 24, 1882. In 1883, on Nov. 1, I have the following note:—'R. Cataract occupying the greater part of the small updrawn pupil, the extreme margin of which is clear. L. Optic disc excavated, but of good colour and texture. No pulsation of the vessels. Tension normal in both eyes. V. R. Can tell the time by the watch without spectacles. With spectacles is still able to do needlework. Both eyes cicatricial staphylomata, that in the right being much larger than the left.' My further experience of sclerotomy is quite as favorable as when the above was written."

PAGE 145, No. XXXVII.

Case of Shock, from an unexpected descent upon the soles of the feet. Paresis: tremors: glycosuria. A railway case.

Supplementary Report, received from Dr. BUZZARD.

"May, 1889.—The patient describes himself as being 'pretty well,' only soon tired by any but a short walk. He does not sleep very well. His appetite is good. Mr. Shurlock, who has seen him recently, says that he can handle watches as freely and safely as he ever did, and that the last time the urine was examined it contained no sugar. The only symptom remaining from the accident is a slight hesitancy in speech."

PAGE 173, No. XLII.

Case of remarkable condition of Limb after resection of the knee.

Supplementary Report, received from Mr. BARWELL.

"About a year after the case was read the false joint at the knee became loose with some abduction of tibia. A light hinged instrument was applied, with which she got on very well."

VOL. X.

PAGE 9, No. IV.

Case of Hydatid of Orbit.

Supplementary Report, received from Mr. HIGGENS.

"The patient has not been seen or heard of for the last ten years."

PAGE 32, No. IX.

Case of localised Hypertrophy of the Scalp.

Supplementary Report, received from Mr. WALSHAM.

"I have not since seen this boy and have no definite note of his case. I have a vague impression, however, that he was operated on at another hospital, but with what result I am unable to say."

PAGE 88, No. XIV.

Case of Acute Rheumatism treated by salicylate of soda.

Supplementary Report, received from Dr. CAVAFY.

"The patient was never seen again."

PAGE 91, No. XV.

Cases of Subcutaneous Section of the neck of the thigh bone.

Supplementary Report, received from Mr. BRODHURST.

"CASE 1.—The operation in this case was done in 1864, and when the patient was seen at the rooms of the Society there was useful motion of the limb at the new joint. Especially, there was considerable power of flexion and extension and of adduction. The power of abduction was more limited. It is now twenty-five years since the operation was done and there still remains useful motion, though it is less free than it was in 1876.

"CASE 2.—The limb in this case has continued to be as useful as when the patient was seen at a meeting of the Society in 1876. She seldom used a stick in walking when she was last seen."

PAGE 94, No. XVI.

Case of Subcutaneous Section of the Femur below the trochanter for osseous anchylosis of the hip-joint.

Supplementary Report, received from Mr. CROFT.

"I saw the man a long time after the date of the paper. His limb was strong and he was earning his living. The result was perfectly satisfactory."

PAGE 99, No. XIX.

Case of repeated Tracheotomy.

Supplementary Report, received from Mr. PUGIN THORNTON.

"The case has been lost sight of."

PAGE 100, No. XX.

Case of Congenital Dislocation of one knee forward.

Supplementary Report, received from Mr. GODLEE.

"Jan. 29, 1889.—Present state of patient, who is now 14 years old. She is well-grown and in good general health,

but walks with a decided limp, owing to the fact that the left limb is 1¾ inch shorter than the right (right 32½, left 30½, measured from anterior superior spine to the internal malleolus). This does not depend upon wasting of the limb but upon dislocation of the head of the femur upwards beneath the anterior part of the crest of the ilium. The actual shortening of the limb, measured from the top of the trochanter to the external malleolus is not more than ¼ inch. The head of the bone occupying this anterior position there is little or no lordosis and no extension of foot, nor is there at present any permanent lateral curvature of the spine, and it is anticipated that this will be prevented by making the patient wear a thick sole to the boot. It will be seen, on reference to the original notes of the case, that looseness of the hip was noticed but that its cause was not determined; no doubt, therefore, the dislocation is congenital. The muscles throughout the whole limb are less developed than those on the other side. The girth of the knee is 11½ inches as compared with 12 inches on the opposite side, but the movements are perfect though it is extensible rather beyond the straight line; a precisely similar amount of hyperextension (as is not uncommon I think in girls) can be obtained on the opposite side. The left patella feels perhaps a little smaller than the right, but the difference, if present, is so slight that it cannot be defined in fractions of an inch. There is a slight tendency to flat-foot and pain in the back and left shoulder follows prolonged walking or standing."

PAGE 103, No. XXI.

Case of Hydatid of the Lung.

Supplementary Report, received from Dr. GREENFIELD.

"I have never seen the patient since."

PAGE 113, No. XXIII.

Case of Contraction of a Tinkling Cavity in chronic phthisis.

Supplementary Report, received from Dr. THEODORE WILLIAMS.

"Unfortunately the patient has been lost sight of."

PAGE 117, No XXV.

Case of Neuroretinitis followed by partial atrophy of the optic disc, with observations on the perception of colour.

Supplementary Report, received from Mr. LOWNS.

"I entirely lost sight of this patient shortly after the publication of the case."

PAGE 123, No. XXVII.

Case of Excision of a Lingual Epithelioma by Dr. Petrequin's thermo-cautère.

Supplementary Report, received from Mr. BARWELL.

"The patient was seen by Dr. Spurrell in 1880. She was well and the scar on the tongue barely visible. Since then I have heard nothing of her."

PAGE 135, No. XXXI.

Case in which the lower half of the Ulna was excised for myeloid tumour.

Supplementary Report, received from Mr. CLEMENT LUCAS.

"This patient was kept under observation for many years. A strong fibrous band was developed to replace the portion of ulna removed, extending from the carpus upwards to the point of section. It was pointed out in the original paper that excision of the lower part of the ulna does not lead to adduction of the hand, and years after, the straight direction of the hand was maintained. Moreover, the usefulness of the member was in no way impaired, pronation and supination being perfect and the strength of the forearm and hand being but little less than before the operation. Ten years after the removal of the tumour no recurrence had taken place, so that this case must be regarded as one of complete radical cure. The preparation is preserved in the Museum of Guy's Hospital."

PAGE 138, No. XXXII.

Case of Myeloid or Endosteal Sarcoma of the left radius, in which the lower ends of radius and ulna were excised leaving a useful hand.

Supplementary Report, received from Mr. HENRY MORRIS.

"This case was subsequently reported on in vol. xiii of the Clinical Society's *Transactions*, pp. 155—157, where an illustration of the hand four years after operation is given. The patient was also shown to the Society on Feb. 13, 1880. Her life has been a very hard one as she has borne a large family, and having a husband who has been constantly in difficulties she has had to work laboriously at one time as a charwoman, at another time selling salt or flowers from a hand-barrow in the street. By means of the frequent 'prescription' of '*half-crowns*,' however, I have managed to retain the woman's confidence up to the present time, and every few months am thereby enabled to present her to my class for inspection. Her last visit to me was in February or March of this year, *i. e.* 1889, just thirteen years after operation. She was then in quite the same condition as when reported upon in 1880. She has excellent use of her hand, and there neither has been nor is any sign of local or remote recurrence."

PAGE 146, No. XXXIII.

Case of Acute Idiopathic Tetanus treated successfully by large doses of bromide of potassium.

Supplementary Report, received from Dr. SOUTHEY.

"This boy was not heard of again by me but he was kept some weeks in the hospital convalescing after his recovery."

PAGE 160, No. XXXVI.

Case of Ascites in a young child: treatment by paracentesis and copaiba: recovery.

Supplementary Report, received from Dr. W. H. DAY.

"This patient was frightened by a dog in March, 1886, and died on the 19th of that month in her sixteenth year, after

one week's illness. She is said to have been menstruating at the time, and that the loss was suddenly checked by the fright she received. She had grown up a fine healthy girl, had experienced no return of dropsical symptoms, and was filling the situation of a general servant when the dog attacked her. This information has been supplied me by the father of the patient."

PAGE 196, No. XLIII.

Case of Undescribed Eruption occurring in a tuberculous child.

Supplementary Report, received from Dr. BARLOW.

"The pigmented eruption of the trunk gradually lessened, that is to say, the liability to wheals diminished, the roundish patches lost their slight elevation above the general surface and the colour faded. But about one year ago, when I last saw the patient, there were still many brownish-drab areas of pigmentation to be seen. The tubercular diathesis of the child has shown itself in several ways, viz. chronic glandular swellings of the neck, scrofulous ophthalmia, some chronic pulmonary catarrh with impaired resonance, which lasted for several months, some scrofulides on the back of the neck; and I have had some other members of the family under my care who have died of acute tuberculosis. Nevertheless, I think the association with this eruption was not an essential one. No other member of the family has had the eruption. There is no doubt, I think, that the skin affection in this case belongs to the group, subsequently entitled by Dr. Sangster, Urticaria pigmentosa."

VOL. XI.

PAGE 5, No. II.

Case of Hysteria with contraction of the lower limbs, Anæsthesia, and Ischæmia in a boy.

Supplementary Report, received from Dr. HENRY THOMPSON.

"On the 25th of August, 1877, the boy left the Middlesex Hospital for the Convalescent Asylum at Eastbourne, where he remained for a short time, but was sent away on account of his bronchitis. He then went to Bognor where he resided for the most part until the beginning of the year 1878. In the February of the same year he made his appearance at the Middlesex Hospital, and declared himself to be perfectly well."

PAGE 13, No. III.

Case of Hysterical Anæsthesia of both legs below the knee: treatment by metallic bands: cure.

Supplementary Report, received from Dr. BROADBENT.

"The patient has not been seen or heard of since she left the hospital."

PAGE 22, No. VI.

Case. Large Calculi removed by external incision from a sac communicating with penile urethra.

Supplementary Report, received from Mr. BELLAMY.

"No further details are given."

PAGE 23, No. VII.

Case of large Urethral Calculus.

Supplementary Report, received from Mr. SYDNEY JONES.

"I have no further information as regards this case."

PAGE 75, No. XIX.

Case of Spina Bifida successfully treated by injection of iodine.

Supplementary Report, received from Mr. PEARCE GOULD.

"I have not seen or heard of this child since the report was published."

PAGE 51, No. XII.

Case of Popliteal Aneurysm treated by ligature of the superficial femoral artery with carbolised gut, followed by the formation of an aneurism at the seat of ligature.

Supplementary Report, received from Mr. THOMAS SMITH.

"Of this patient nothing is known for *certain*. I believe that he died not very long after he left the hospital, but I do not know what caused his death, nor could I ascertain as I have lost all trace of him."

PAGE 55, No. XIV.

Case of Convulsions treated by venesection.

Supplementary Report, received from Dr. BROADBENT.

"The patient is living and in good health. She had a severe and protracted attack of gout about three years ago, but has had no other illness of any kind."

PAGE 80, No. XX.

Cases of Spine Disease treated by Sayre's jacket.

Supplementary Report, received from Mr. BERKELEY HILL.

"Case 1 has long been lost sight of, but she apparently recovered by consolidation of the vertebræ. The porous felt jacket never fitted well, so was replaced by a plaster one of Sayre's fashion. When I last saw her in 1881 she had a

projecting spinous process, probably the eleventh dorsal one, and she was strong and able to move or stand without pain.

"Case 2, put up by Mr. Marcus Beck, who informs me that he never saw the patient again, nor heard further of him.

"Case 3, Dr. Gooding writes me in answer to my inquiry the following under date May 9th, 1889, "My daughter pursues her studies in painting and singing. Much walking fatigues her and causes backache, but she enjoys good health. For the last six or seven years she has worn the poro-plastic jacket inside of the plaster-of-Paris which she had regularly worn till that time."

PAGE 98, No. XXIV.

Cases of Cancer of the Breast.

Supplementary Report, received from Mr. NUNN.

"The patient lived till December 15th, that is, nearly a year after the report of her case as above, gradually increasing debility being the only noticeable special feature in the downward progress of the disease. The post-mortem examination was made by Dr. Lyell twenty-nine hours after death. The following is an extract from the account of the post-mortem. 'Scattered over the skin, chiefly of the abdominal wall, were a number of dark pigmented sessile warts. The right nipple and greater part of the mamma had been destroyed by ulceration. The margin of the ulcer was raised forming a wall of infiltration. The skin of the chest was natural. Behind the lower edge of the pectoralis major was an enlarged fixed ovoid gland. The whole of the deep tissues below the ulcer were found on reflecting the skin and ulcer, to be infiltrated with a firm, whitish, cancerous material. The parietal pleura retained its natural aspect. The axillary vessels were partially surrounded by a cluster of glands, but the arm was not œdematous. The *pleura pulmonalis* was universally studded with small white plaques. The costal pleura was infected in a smaller degree. Only two small nodules of cancer were discovered in the lungs, and three nodules in the liver. Of the other organs nothing requiring mention.'"

PAGE 104, No. XXVI.

Case of Multiple Papillomatous Growth in the Larynx extirpated by complete laryngotomy: removal of vocal cords: preservation of voice.

Supplementary Report, received from Dr. BURNEY YEO.

"Soon after his appearance before the Clinical Society he was admitted into one of Dr. Tatham's beds in the Brompton Hospital on account of the aneurysm of the aorta from which he also suffered. He was repeatedly examined by the laryngoscope in that hospital by numbers of medical men who took an interest in the case, and he was therefore repeatedly making deep inspirations to display the region operated upon.

"He had one and then another, and possibly a third attack of hæmoptysis. These were at the time regarded as probably proceeding from some slight crack in the aneurysmal walls communicating with a large air-passage; but when he died a few months after his admission, and apparently from hæmorrhage, it was found on post-mortem examination that the aneurysmal walls were intact, and the cavity partly filled up by clot, and that the hæmorrhage was associated with phthisical disease and excavation of the apex of the right lung, which had been to a certain extent pressed upon by the aneurysm."

PAGE 113, No. XXVII.

Case of Excision of the lower part of Rectum.

Supplementary Report, received from Mr. HOLMES.

"I saw this woman some years after the operation and a friend of mine saw her not very long ago. She is for anything I know still alive. At any rate I can affirm that the disease did not recur. When I saw her she was moderately comfortable. She could not resist any urgent tendency to defæcation, but managed to keep her bowels tolerably regular under ordinary circumstances, and herself clean and free from offensive odour, but she did not regain any sphincter power."

PAGE 123, No. XXX.

Case of Aneurysm of the left subclavian and axillary arteries treated by enforced rest and a very limited diet.

Supplementary Report, received from Mr. HULKE.

"He left the hospital much relieved. The aneurysm had greatly contracted, the impulse was no longer expansile, but rather the impact of a solid mass. After his return home he was able to take some share in managing his business. Some time later his house took fire, in the alarm he ran out in his night-shirt, the night was cold, weather inclement. The result was a chill and an acute inflammation in the chest which was rapidly fatal."

PAGE 132, No. XXXII.

Case of Hæmorrhagic Retinitis and its connection with gout and with thrombosis of veins.

Supplementary Report, received from Mr. HUTCHINSON.

"There is nothing further to add to the report of this case."

PAGE 141, No. XXXV.

Case of Bilateral Paralysis of the posterior crico-arytenoid muscles.

Supplementary Report, received from Dr. SEMON.

"Very gradually within the years 1881—85 the usual symptoms of tabes dorsalis developed, lancinating pains in the limbs occurred, the weakness of the bladder increased, sexual power become lost, the atactic movements of the lower extremities most pronounced, most violent gastric crises frequently occurred, parts of the lower maxilla containing healthy alveoli, and teeth were painlessly expelled. Argyll Robertson's phenomenon was noted, the patellar reflex was entirely absent. Finally, the patient was absolutely unable to walk. He was in 1884 for some length of time in St.

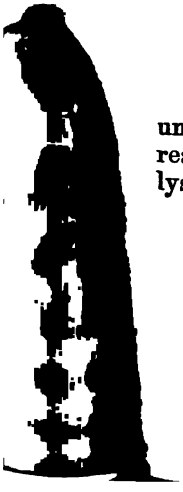
Thomas's Hospital under Dr. Ord's care. In 1885 he was admitted into the Midland Counties Home and Hospital for Chronic and Incurable Diseases. I saw him for the last time before he started for his destination, and found that the condition of the larynx was exactly the same as described in my first communication (1878), the glottis was reduced to a narrow slit, which hardly increased at all during deep inspiration. No excavation of the inner borders of the vocal cords. Voice normal, though its sound had a somewhat forced character. The patient still wore his tube. In November of the same year (1885) he died, apparently from exhaustion, after one of the formidable gastric crises from which he suffered so frequently. A partial autopsy was made by Dr. T. T. Boyer, to whom I am indebted for particulars about his last days, and who also kindly sent me the brain, spinal cord, and larynx, with parts of the vagi and recurrent nerves. These parts were very thoroughly examined by Dr. Beevor. Apart from the typical lesions in the posterior columns, which were most markedly developed, foci of degeneration were found in the nuclei of the spinal accessory, vagus, and hypoglossus nerves. In the vagi and recurrent laryngeal nerves a certain number of fibres was found to have undergone considerable fatty degeneration, whilst the majority of the fibres were intact. *All* the intrinsic muscles of the larynx were most carefully examined and found to be *quite normal*, with the exception of the *abductor* (posterior crico-arytenoid) muscles, which were in a state of advanced atrophy and fatty degeneration, though even in those some primitive fibres showed a state of complete preservation."

PAGE 157, No. XXXVII.

Cases of Epulis treated by electrolysis.

Supplementary Report, received from Mr. NUNN.

"Since the cases reported some few others have come under my treatment by the same means. I have had no reason to modify my opinion as to the superiority of electrolysis over any other form of removal of these growths."



PAGE 161, No. XXXVIII.

Case of Anomalous Mottled Rash, accompanied by pruritus, factitious urticaria, and pigmentation.

Supplementary Report, received from Dr. A. SANGSTER.

"This case was not followed up."

PAGE 175, No. XL.

Case of Ovariotomy in a child aged twelve years.

Supplementary Report, received from Mr. HOWARD MARSH.

"I saw the patient three years afterwards. She was then quite well, but there was some yielding of the abdominal wall in the line of incision. For this an abdominal belt was applied."

PAGE 201, No. XLIV.

Two cases of Lupus.

Supplementary Report, received from Mr. SPENCER WATSON.

"I have lost sight of the subject of this communication."

PAGE 205, No. XLV.

Case of Imperfect Right Hemiplegia with slight aphasia, optic neuritis, &c.

Supplementary Report, received from Dr. BUZZARD.

"Sequel unknown."

PAGE 212, No. XLVI.

Case of Abortive Herpes.

Supplementary Report received from Dr. SANGSTER.

"This case remained under observation for three years after it was reported in the Clinical Society's *Transactions*.

During this time patches continued to appear, such as are described in the report; they affected the extremities for the most part, but many were seen on the trunk; one was seen over the right scapular region. Three months was said to be the longest period of exemption. None appeared on the face. The patient was twice in Charing Cross Hospital. She was carefully watched and the arms and legs were bandaged; patches appeared beneath the bandages in such positions as made it impossible that any fluid could have been used, although the fingers or an instrument might possibly have been inserted beneath the bandage. Débris from the patches were examined but with a negative result. The case was shown at the International Medical Congress, when held in London, as one of supposed 'neurotic excoriation' (Wilson). Its subsequent history had shown that the name abortive herpes was too hastily suggested. The majority of those who saw the case at the Congress were of the opinion that it was produced artificially, the president and others were in favour of its genuineness. Although the nature of the case was extremely obscure I am of the opinion that it was genuine, it being extremely improbable that deception could be carried out for three years, especially while the patient was under close observation in the hospital. It is probably allied to some of the cases of so-called hæmidrosis which have been described (Dr. Chambers, *Lancet*, 1861). A good drawing of the eruption is in the author's possession."

PAGE 233, No. LI.

Case in which Œsophagotomy was performed for the impaction in the œsophagus for five weeks of a set of artificial teeth.

Supplementary Report, received from Dr. McKEOWN (favoured by Sir W. MACCORMAC).

"May 18, 1889.—I have seen the patient to-day. She has not had any difficulty of swallowing nor any trouble of any kind since the operation."

VOL. XII.

PAGE 1, No. I.

Case of Fracture of both Humeri. Rupture of left brachial artery, abolished conductivity of the left radial and median nerves, broken ribs, and laceration of quadriceps cruri.

Supplementary Report, received from Mr. HULKE.

"The recovery was so complete that he was able to resume work. I saw him occasionally, the last time several years after the accident, at which time he had perfect use of his arms and of his leg, walking without limp."

PAGE 9, No. IV.

Case of Supra-pubic Incision for traumatic stricture caused by compound fracture of the pelvis.

Supplementary Report, received from Mr. HOWSE.

"This case has been seen or heard of many times since he left the hospital; in fact, regularly about once a year up to about two years ago. The urethra remains permanently patent. He passes occasionally (two or three times a year) a No. 12 catheter to assure himself that there is no contraction. The sinuses in the perinæum have remained permanently healed, and there is no difficulty in the passage of the urine.

"His wife has had two or three children since he left the hospital, a point of interest as regards the condition of the seminal ducts."

PAGE 32, No. VIII.

Case of Osteotomy with special reference to Genu Valgum and Extrorsum.

Supplementary Report, received from Mr. REEVES.

"The case referred to did quite well. I saw the case about a year after the operation and he had a straight and useful leg with perfect motion at the knee."

PAGE 36, No. IX.

Case of Talipes Varus treated by the removal of a wedge of bone from the tarsus.

Supplementary Report, received from Mr. BRYANT.

"In December, 1880, I saw this boy and found that he had an excellent foot. He stated that he could do anything with it."

PAGE 39, No. 10.

Two cases of Iodide of Potassium Rash.

Supplementary Report, received from Sir DYCE DUCKWORTH.

"The histological report of Case 1 may be found in the *Pathological Society's Transactions*, vol. XXX, p. 476."

PAGE 55, No. XIII.

Four cases of Popliteal and Femoral Aneurysm successfully treated by Esmarch's bandage and digital compression.

Supplementary Report, received from Mr. HUTCHINSON.

"I have nothing further to add to the report of the four patients referred to excepting that, so far as I am aware, they have all remained quite well since. I have only had one patient under my care for popliteal aneurysm since the report was published. In it a complete and satisfactory cure was obtained by precisely similar methods to those described in the former cases recorded in the paper. The only drawback was that the great toe was lost by dry gangrene after the cure of the aneurysm. It mummified very slowly and without pain or constitutional disturbance. After separation was complete I cut away the bone higher up, and the parts healed soundly. The case was a somewhat critical one, for the patient was a gentleman of sixty-four, who had disease of the heart, and very extensive calcification of arteries. He was placed under my care by Dr. Handfield Jones. It is now six or seven years ago, and he has since died, I believe, of disease of the heart."

PAGE 67, No. XVI.

Case of Scleroderma.

Supplementary Report, received from Dr. CROCKER.

"She recovered completely from the scleroderma without any deformity being left."

PAGE 72, No. XVII.

Case of Urticaria Pigmentosa.

Supplementary Report, received from Dr. BARLOW.

"I have nothing further to report. I am not able to trace the ultimate result."

PAGE 74, No. XVIII.

Case. Intestinal Obstruction for which gastro-enterotomy was performed.

Supplementary Report, received from Dr. CAYLEY.

"The patient continued in the hospital till his death, which took place August 29, 1879. He became extremely emaciated, the fæces were almost entirely discharged through the artificial opening, and a distinct tumour became manifest in the left iliac region.

"On post-mortem examination the cæcum and the ascending colon were found to be enormously dilated and filled with solid fæces. At the hepatic flexure was a stricture which would just admit the tip of the finger. This was formed by a circular ulcer of the mucous membrane with thickened margins and a sloughy base. Beyond this the colon again became greatly dilated, being of the calibre of an adult arm, and was filled with solid fæces. The lower part of the sigmoid flexure was completely obstructed by a large cancerous growth projecting into the bowel, and infiltrating all the coats. It had the character of colloid. The dilated cæcum and sigmoid flexure were adherent together, and there was a fistulous communication between them. The glands in front of the spine and the right lobe of the liver were infiltrated with cancer."

PAGE 81, No. XIX.

Case of Pleuritic Effusion in which the side was gradually drained by a fine cannula.

Supplementary Report, received from Dr. SOUTHEY.

"I never saw this patient again after his discharge, but there is every reason for me to infer that he recovered completely as he never came back to the hospital."

PAGE 85, No. XX.

Case of Spasmodic Torticollis.

Supplementary Report, received from Dr. JULIUS ALTHAUS.

"I am unable to give any further information."

PAGE 102, No. XXIII.

Case of Intestinal Obstruction in which the abdominal cavity was explored, a stricture found, and the gut successfully opened.

Supplementary Report, received from Mr. HOWARD MARSH.

"Patient was lost sight of, and I can add no further particulars."

PAGE 151, No. XXXV.

Case of Tracheotomy as a preliminary to excision of tongue.

Supplementary Report, received from Mr. BARKER.

"Nothing further was heard of the case after the date mentioned in the report."

PAGE 156, No. XXXVI.

Case of rare Vaso-Motor Disturbance in the Leg.

Supplementary Report, received from Dr. ALLEN STURGE.

"Three or four years afterwards this patient figured on the platform of a 'faith healers'' meeting as being an example of cure brought about by faith where doctors had been unable to do anything. Dr. Donkin seeing my name mentioned in a report of this meeting as having been one of the doctors who had tried to cure the man and had failed, wrote to me to ask about it, and, at my suggestion, wrote also to the man. A letter came in reply purporting to be from the man himself, but in reality written by someone else, to say that the man, finding everything else fail, had put himself into the hands of the faith healers, and that he had been perfectly cured by them, and was then in perfect health. The fact that the letter was written by someone else (an educated person) does not necessarily impugn the accuracy of the statement, for the man was almost illiterate, and had great difficulty in writing a few lines. Still, the statement written out by one who was probably an enthusiast for the particular kind of treatment adopted must be accepted with caution.

"The man lived at Great Grimsby, and as I myself was living abroad, it was not easy to get a proper scientific examination of the patient made with a view to confirming or modifying the account given. In so far as there may have been any foundation in fact for the statement of cure, which I am not prepared altogether to deny, the active agent would seem to be the influence of "suggestion," of which we are now hearing so much."

PAGE 162, No. XXXVII.

Case of Partial Epilepsy, apparently due to a lesion of one of the vasomotor centres of the brain.

Supplementary Report, received from Dr. ALLEN STURGE.

"No further knowledge of patient."

PAGE 121, No. XXVIII.

Case of Tracheotomy in the last stage of diphtheria.

Supplementary Report, received from Mr. PUGIN THORNTON.

"Complete recovery with removal of tracheotomy tube."

PAGE 181, No. XL.

Case of Ichthyosis of unusual character.

Supplementary Report, received from Dr. CROCKER (per Dr. TILBURY FOX).

"The patient lived in the north of England, and I have heard nothing more of him, but it is not probable that there has been any material change in the skin."

PAGE 184, No. XLI.

Case. On the Question of Tracheotomy in bilateral paralysis of the posterior crico-arytænoid muscles, &c.

Supplementary Report, received from Dr. SEMON.

"The case is *identical* with the one, the further progress and termination of which are described in a Supplementary Report, Vol. xi, No. xxxv."

PAGE 195, No. XLIII.

Case of Lichen Scrofulosorum.

Supplementary Report, received from Dr. CROCKER.

"The eruption disappeared completely under the treatment described in the relation of the case."

PAGE 196, No. XLIV.

Case of Removal by operation of a large Rodent Ulcer of the Scalp.

Supplementary Report, received from Mr. MORRANT BAKER.

"The diagnosis of rodent ulcer was confirmed by the subsequent progress of the case. The patient died July 1, 1884, from extension of the disease, in a cancer ward of the Middlesex Hospital under the care of Mr. Henry Morris.

"The notes of the post-mortem examination with an account of the microscopic appearances of some tissue removed have been recorded by Dr. Thin in the *Pathological Society's Transactions*, vol. xxxvi, p. 469."

PAGE 199, No. XLV.

Case of an Eruption caused by bromide of potassium.

Supplementary Report, received from Mr. R. W. PARKER.

"The patient was watched for a while. As soon as bromide of potassium was administered there was a recrudescence of the eruption, which died away again when the drug was discontinued. I have long lost sight of the case and can learn nothing about the child's present whereabouts."

PAGE 201, No. XLVI.

Case of Biliary Calculus removed by operation from gall-bladder: cure.

Supplementary Report, received from Mr. BRYANT.

"This patient was known to have been well a year after leaving the hospital."

PAGE 204, No. XLVII.

Case of Spondylitis Deformans.

Supplementary Report, received from Dr. ALLEN STURGE.

"No further knowledge of patient."

PAGE 228, No. LII.

Cases illustrating the communicability of, and some other points connected with, Molluscum Contagiosum.

Supplementary Report, received from Dr. S. MACKENZIE.

"There is nothing further to report. The cases were all cured. I have since tried several times to inoculate the disease unsuccessfully."

VOL. XIII.

PAGE 51, No. XII.

Case of Keloid in Smallpox Scars.

Supplementary Report, received from Dr. GOODHART.

"I hope to be able to exhibit this patient again to the Society. He presents himself occasionally and I saw him a few months ago. The keloid in the scars had quite disappeared in many places and had lessened greatly in the amount of it in all. He came again because some contraction of the cicatrices about the mouth were leading to distortion of the lip and inconvenience in this way."

PAGE 104, No. XIX.

Cases of Hip-joint Disease excised by a new method.

Supplementary Report, received from Mr. R. W. PARKER.

"The girl was seen from time to time during the next three or four years. There was shortening but a useful limb was finally obtained. She was then lost sight of."

PAGE 142, No. XXIX.

Case of Chylous Urine after ague in India.

Supplementary Report, received from Dr. HABERSHON.

"I am unable to give any further particulars of this case."

PAGE 172, No. XXXVII.

Case of Anæsthetic Leprosy.

Supplementary Report, received from Dr. RADCLIFFE CROCKER.

"Subsequent to the report stretching of the ulnar nerves was tried but without any improvement to the paralysis. A little later he had a copious erythematous rash followed by the development of the characteristic mop-like areas with raised brownish-red border and partially anæsthetic centres. Slight right facial paralysis also appeared, but the disease as a whole after this remained nearly stationary until Nov. 18, 1885, when he was exposed to septic influences. On Nov. 10 he had rigors and a temperature of 104·6°, followed by the full development of pyæmia, and he died on Dec. 27, 1885. *Post-mortem.*—Ulcerative endocarditis, affecting the tricuspid chiefly; suppuration in the left sterno-clavicular joint, and other pyæmic lesions were found. There was no reason to believe that the pyæmia was due to the leprosy, except so far as that disease may have made him more susceptible to septic influences."

PAGE 180, No. XL.

Case of Rapid Universal Paralysis.

Supplementary Report, received from Dr. BUZZARD.

"Nothing known."

PAGE 350, No. LV.

Case of Acquired Hypertrophy of one limb.

Supplementary Report, received from Mr. CLUTTON.

"I lost sight of him shortly after the date of last note."

VOL. XIV.

PAGE 12, No. IV.

Case of Traumatic Epilepsy treated by trephining.

Supplementary Report, received from Mr. BELLAMY.

"Patient died some three years after from lung affection."

PAGE 30, No. VII.

Case of Nephro-Lithotomy.

Supplementary Report, received from Mr. MORRIS.

"There remained a sinus which was permanent. No urine, but a small quantity of pus constantly discharged from it. Sometimes this quantity was but a slight trace. She died in 1888 of disease of the liver. A few months before, her mother died of malignant disease of the liver. At the post-mortem examination the kidney which had been operated upon was much shrivelled and very small."

PAGE 44, No. VIII.

Case of Stretching of the Facial Nerve for the relief of spasm of the facial muscles.

Supplementary Report, received from Mr. GODLEE.

"This case is again reported upon, vol. xvi, p. 220, No. XLVI. The spasm returned, as there stated, to a slight extent. I have a note from Mrs. Garrett Anderson, dated June 17, 1889, stating that it never troubled her seriously, and that she died last year; also that she had been increasingly feeble in mind and body for some months, and finally went into a condition of dementia."

PAGE 104, No. XIX.

Case of Villous Growth of the Bladder.

Supplementary Report, received from Mr. DAVIES-COLLEY.

"The most recent information I have concerning this case is contained in a letter from the patient, dated April 26, 1884 (four years after the operation). He says, 'I have never had any return of the bleeding, and I have been able to follow my employment ever since I left the hospital, and I have never had any illness since I was under your care.'"

PAGE 131, No. XXVI.

Case of Quiescent Scirrhus.

Supplementary Report, received from Dr. J. W. TEALE.

"In the case of quiescent scirrhus reported to the Society the scirrhus mammæ remained perfectly quiescent and nearly painless for eight years. Then the disease became more active, and the patient died just eleven years after I first saw her with well-marked scirrhus and retracted nipple.

PAGE 152, No. XXXII.

Case of Bronzing of the Skin without constitutional symptoms.

Supplementary Report, received from Dr. RADCLIFFE CROCKER.

"The patient was a sailor, and has not been heard of since the report."

PAGE 157, No. XXXIII.

Case of Bronzing of the Skin without constitutional symptoms, by the late Dr. Carrington.

Supplementary Report, received from Mr. KAUFFMANN.

"No further information to be obtained."

PAGE 178, No. XXXVII.

Case of Arterial Hæmatoma of Forearm.

Supplementary Report, received from Mr. RUSHTON PARKER.

"I looked this patient up and found a friend who had seen him alive and well about January, 1889, but I could not get particulars as to his forearm or state of his heart. Nothing wrong was noticeable in a general way. He was said to be attached to a travelling company of actors."

VOL. XV.

PAGE 103, No. XIX.

Case of Nephro-Lithotomy.

Supplementary Report, received from Mr. BECK.

"After the operation the patient returned to his work as a paperhanger, and as far as I know has continued to work ever since. I saw him at intervals for about six years. He was free from pain and apparently in good health, but his urine persistently contained some pus. This fact is interesting as there was scarcely a trace of pus at the time of the operation, and the wound healed rapidly and without much suppuration. When last examined, about three years ago, no enlargement of the kidney could be felt."

PAGE 113, No. XX.

Case of Renal Lithotomy.

Supplementary Report, received from Mr. BUTLIN.

"The sequel to this case will be found in the twentieth volume of the *Transactions*, p. 22."

PAGE 117, No. XXI.

Case of Nephrotomy for renal calculus.

Supplementary Report, received from Mr. HAWARD.

"Patient cannot be traced."

PAGE 151, No. XXVII.

Case of Aneurysm of the Ascending Aorta.

Supplementary Report, received from Dr. FINLAY.

"The seqnel of this case is recorded in vol. xvii, p. 207."

PAGE 159, No. XXIX.

Case of Perforative Pneumothorax with recovery.

Supplementary Report, received from Dr. GEORGE JOHNSON.

"I last heard of this patient in May, 1887, from his father, Colonel A., who called to consult me about himself. He told me that his son had entered the Army, that he had been with his regiment through the campaign in the Soudan, and that he had not once been on the sick list."

PAGE 195, No. XXXVII.

Case of Primary Perichondritis of the Larynx.

Supplementary Report, received from Dr. DE HAVILLAND HALL.

"The sequel of this case is recorded in vol. xvii, p. 151."

PAGE 199, No. XXXIX.

Case of Epitheliomatous Ulcer of Leg treated by scraping.

Supplementary Report, received from Mr. HOLMES.

"I fear I can give you no further information about this case."

Page 203, No. XLI.

Case of Cerebro-spinal Syphilis.

Supplementary Report, received from Dr. ALTHAUS.

"The patient has been lost sight of, and no further particulars can be added."

PAGE 248, No. XLIV.

Case of Prurigo ferox of Hebra.

Supplementary Report, received from Dr. RADCLIFFE CROCKER.

"I have no further information; the patient is not likely to experience any material change."

PAGE 252, No. XLVI.

Case of Lupus Psoriasis.

Supplementary Report, received from Dr. S. MACKENZIE.

"The patient was entirely lost sight of soon after the date of the communication to the Society.

"It has been ascertained that he died in the present year. It is stated by a member of his family that 'the disease had healed, that he had nothing on his body when he died, but that sometimes his fingers and toes would break out."

VOL. XVI.

PAGE 1, No. I.

Cases of Phthisis treated by residence at high altitudes.

Supplementary Report, received from Dr. C. THEODORE WILLIAMS.

"CASE 1 (June 11, 1889).—This gentleman has still further improved in health. He has resided (with the exception of

occasional visits to England) at St. Moritz ever since, and has followed his profession without intermission, and in the winter has been able to skate and toboggan and in the summer to play lawn tennis. This year (1889) his work has been exceptionally heavy but he has contrived to do it without material harm to himself. He can walk well and even ascend heights, and is not inconvenienced by shortness of breath. His weight is 12 st. 9 lb. (an increase of nearly 1 st.), and his muscles are remarkably well developed. Cough and morning expectoration are still present, though rarely except in the morning. The physical signs (June 11, 1889) show marked diminution of dulness in the *left* side of the chest, in fact, scarcely any can be detected front or back, also the disappearance of all crepitation or moist sound. Tubular sound can be heard in the interscapular region over a space about the size of crown piece, this being the only morbid sign present. The right lung is apparently hypertrophied. The following measurements were taken at the same level as in 1881 and 1882:

	Right.	Left.
At the level of second rib ...	19 inches ...	19 inches.
„ „ mamma ...	18½ „ ...	18½ „
„ „ ensiform cartilage	18 „ ...	18½ „

"There is therefore no increase in the total circumference at the second rib and mammary levels, but an increase of 2¼ inches at the ensiform level. The gradual lung and thorax expansion in this case has been very striking.

"Case 2 (Mr. B.).—This patient has remained at his business in Cardiff ever since free from all symptoms. Dr. Wallace writes to me that Mr. B. has lately married and seems thriving in every way. It is six years since he returned from Davos.

"Case 3 (Mrs. I.).—No further report."

Page 9, No. II.

Case of Excision of Tonsil for epithelioma.

Supplementary Report, received from Mr. Golding-Bird.

"I have heard no more of this patient since the date of my last note. The opinion then noted was that he would not survive a couple of months."

PAGE 25, No. VI.

Case of Hæmaturia from Bilharzia Hæmatobia.

Supplementary Report, received from Dr. RADCLIFFE CROCKER.

"Dr. George Bird informs me that the boy returned to Africa about two years ago, and up to that period he still had occasional attacks of hæmaturia. He was then between sixteen and seventeen years of age."

PAGE 34, No. VIII.

Two cases of Spina Bifida treated by glycero-iodine injection.

Supplementary Report, received from Mr. CLUTTON.

"The further record of the first of these two cases will be found in vol. xix, p. 99, No. XVII. The patient was then perfectly well. He was brought under observation on account of a baby brother having been born (in July, 1885) with a cervical spina bifida (No. 72, Table VI, of the Society's Report on Spina Bifida). The last two babies in a family of ten were there shown to be the subjects of the same malformation."

PAGE 43, No. XI.

Cases of Symmetrical Congestive Mottling of Skin.

Supplementary Report, received from Dr. CAVAFY.

"Only one of these patients (Kate O'B.) was seen again, about six months later. There was no change.

"The other patient was quite lost sight of."

PAGE 79, No. XVIII.

Case of Enlargement of the Lower Lip cured by operation.

Supplementary Report, received from Mr. DAVIES-COLLEY.

"Patient has left his old address, and I have no further information about him."

PAGE 82, No. XIX.

Case of Trans-patellar Excision of Knee.

Supplementary Report, received from Mr. GOLDING-BIRD.

"The patient has not been seen since the date of the original record, so I presume that he has remained well."

PAGE 93, No. XXII.

Case of Nephro-lithotomy.

Supplementary Report, received from Mr. HOWSE.

"I learnt from a letter written by his employer (who knew the interest I had taken in the case), that this patient was killed about three years after the operations detailed in the original paper, in an accident with an agricultural machine. After leaving the hospital he found himself well enough to take up an agricultural labourer's work, and this employment he continued till the day of the fatal accident. His employer states that he never complained of any further pain in the kidney or bowel, and that he was well able to do a fair day's work."

PAGE 100, No. XXIII.

Case of supposed Hydrophobia treated by chloral, which recovered.

Supplementary Report, received from Dr. BROADBENT.

"The boy was kept sight of for some months, but nothing is known of his subsequent history."

PAGE 112, No. XXIV.

Two cases of Pseudo-Hypertrophic Muscular Paralysis in adults (brothers).

Supplementary Report, received from Dr. FOWLER.

"CASE 1.—This patient has been under my observation at intervals since his case was reported and I have visited him

lately. His present condition is as follows: The general health is excellent, there is a considerable increase in the amount of subcutaneous fat since the last report. He is now much more helpless than he was six years ago; he spends the day in a wheel-chair but is unable to get out of it or to stand unaided. He can with difficulty feed himself. If placed flat upon his back he is unable either to turn over or to rise.

"The following changes appear to have taken place in the muscles since the last report: The clavicular portions of the pectoral muscles are now much wasted, the biceps on either side is now smaller than before, whilst the triceps and deltoids have maintained their size. The muscles of the back have undergone further atrophy. The folds of the axillæ have entirely disappeared. The muscles of the forearms are somewhat enlarged. The thighs are slightly and the calves decidedly smaller than before. The measurements of the arm and leg are now as follows. In order to show the changes which have occurred the figures appearing in the last column of the previous paper are here reproduced.

	Jan., 1883.	July, 1889.
Arms.		
Right arm, flexed over biceps	11	10
„ extended	10⅞	10
Left arm flexed	12¼	11
„ extended	12	10⅝
Right forearm (greatest circumference)	11	10⅜
Left „ „	10½	10
Legs.		
Right thigh 4 inches from tip of great trochanter	19½	19
Left „ „ „	19½	19
Right calf (greatest circumference)	14½	13
Left „ „	14½	13

"From the above it will be seen that all the measurements show a diminution; it may therefore safely be inferred that a considerable atrophy of muscles has taken place, as the amount of subcutaneous fat is now certainly in excess of what it was in 1883.

"Case 2.—This patient died of phthisis in 1887, but owing to the action of the friends no post-mortem examination was made. Extreme emaciation, the effect of the pulmonary disease, was noted for some weeks before death. The general condition preceding the onset of the phthisis was one of progressive loss of muscular power."

PAGE 134, No. XXIX.

Case of Tetanus lasting forty-two days: Syme's amputation: recovery.

Supplementary Report, received from Mr. MARSH.

"I cannot add anything. Patient was well when last seen."

PAGE 158, No. XXXIII.

Case of Tabetic Arthropathy of both feet.

Supplementary Report, received from Mr. PAGE.

"J. W. continued at work until the beginning of August, 1884, when he had a sudden and severe attack of sickness, pains in the legs and hæmaturia. At the same time his left foot and ankle swelled, and the bones grated on movement as in his former attacks. The foot increased in size, and on Aug. 29 a large abscess burst on the inner side of the tarsus. He was accordingly admitted into St. Mary's Hospital on Sept. 23. He looked extremely anæmic and ill, and the foot was so swollen and angry in appearance that it was feared amputation would be necessary. He was then free from the other symptoms which had been present in August. Incisions were made both on the inner and outer sides and pus was evacuated. After this his general condition and that of the foot also steadily improved, and by Oct. 23, when he left the hospital, the wounds were healed and bony crepitus could no longer be produced. Once only during his stay in the hospital, viz. on Oct. 13, did his urine contain a small trace of blood, while there was no change whatever to be noted in the various conditions originally recorded. His next appearance at St. Mary's was on April 7, 1887, having had the misfortune to fall and fracture his left patella. There is no special remark to be made about this injury, save that it was not deemed wise to subject him to any operative treatment. Since his previous visit in 1884 he had been continuously at work and had been quite free from his old attacks of pain, vomiting, &c. The same degree of anæsthesia, however, the Argyll-Robertson pupils, and the absence of knee-jerk were still to be noted.

"The last account of him is on April 25, 1889. He has enjoyed, he says, very good health up to this time, has had no attacks of any kind, nor have any new symptoms developed themselves. Occasionally he has a few slight pains in his limbs on change of weather. Considering the state of his knee from fracture of the patella, he gets about pretty well and is even able to do some work in his garden."

PAGE 163, No. XXXIV.

Case of Lepra Tuberculosa.

Supplementary Report, received from Dr. TYSON.

"Richard Sullivan died in Guy's Hospital, London, about Midsummer, 1888. He had been in and out of the hospital many times during the last few years. On the last occasion his larynx was much affected, and a month or so before his death he was tracheotomised for obstruction. The tuberculous and ulcerated condition of his skin became very severe towards the end, and there was considerable sloughing of the penis. The anæsthetic patches extended and became more numerous. At last there developed a widespread cellulitis with pyrexia, which was looked upon as of an erysipelatous nature. At the autopsy no naked-eye pathology was noted, except as regards his skin and larynx. Dr. Washbourn, the demonstrator of bacteriology at Guy's, undertook the microscopic examination and reported the results at the Pathological Society this year. He found bacilli in almost every tissue. Dr. Tyson is indebted to Dr. Lauriston Shaw, medical registrar at Guy's Hospital, for the foregoing notes."

PAGE 167, No. XXXVI.

Case of Local Asphyxia: symmetrical gangrene.

Supplementary Report, received from Dr. SOUTHEY.

"From the date of discharge from the hospital I never heard of this patient again."

PAGE 188, No. XXXVIII.

Case of Subcutaneous Nodules, occurring in a patient the subject of syphilis, and with very indefinite connection with rheumatism.

Supplementary Report, received from Dr. S. MACKENZIE.

"The nodules subsided under antisyphilitic treatment, and there can be no doubt that they were of a syphilitic nature. The patient has been seen quite recently and has had no recurrence of nodules."

PAGE 190, No. XXXIX.

Case of Rheumatismal, Cutaneous, Subcutaneous, and Periosteal Nodules: probable syphilitic taint.

Supplementary Report, received from Sir DYCE DUCKWORTH.

"Patient lost sight of."

PAGE 199, No. XLI.

Case of Morphœa in the region of the first and second divisions of the fifth nerve, with paralysis of the intra-occular branches of the third nerve.

Supplementary Report, received from Mr. E. NETTLESHIP.

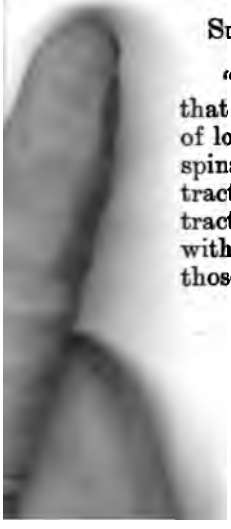
"Patient continued under care of Mr. Higgens more or less regularly from 1883 till the autumn of 1888, when she was for some weeks an in-patient under care of Dr. Green at Charing Cross Hospital, who kindly allowed us to use his notes. During the whole of the five years she used either eserine or pilocarpine to the eye without much intermission with the result of usually keeping the pupils small, and the ciliary muscle in a state of spasm, the myotic was often omitted, and always with the same result, the pupil dilating and the accommodation becoming again paralysed. It is thus apparent that whilst the motor nerve-fibres of the ciliary muscle and iris have remained permanently paralysed, neither

these nerve-fibres, nor the muscular fibres which they supply have degenerated. The condition of the eye was unaltered when I saw her by Dr. Green's permission in the autumn of 1888.

"From Dr. Green's notes as to the condition of the skin, &c., in October, 1888, it appears that the morphœa patches on the left side of face, temple, and scalp had passed into a more general condition of hemi-atrophy, affecting chiefly the left forehead, front of scalp, temporal region, side of nose under her lip; nearly all the teeth on the left side were absent, the hair on affected part of scalp had nearly all fallen out, the atrophic portions of skin were anæsthetic, but the sense of pain was only slightly diminished; sensation of heat or cold was lost over the supra-orbital region, but not over the rest of the anæsthetic skin. It was thought that the left temporal muscle was atrophied, but the masseter was not affected; the facial occipital frontalis and external ocular muscles were all normal. No affection of vision, smell, nor taste, and she could distinguish not only odours, but pungent vapours with the left nostril; no atrophy of bone. There is a patch of scleroderma over the lower part of the right shoulder-blade, there are also two small spots on the right arm just above the elbow. No patches had appeared on the right side of the scalp or face, though in 1883 patient feared that the right scalp was becoming affected."

PAGE 204, No. XLII.

Case. A partial description of the Brain and Spinal Cord of C. K., the subject of nystagmus infantilis.



Supplementary Report, received from Dr. ANGEL MONEY.

"A further examination of the brain and spinal cord proved that the changes were so diffused as to be useless for purposes of localisation of function or determination of structure. The spinal cord was small (micromyelia) and the direct cerebellar tract sclerosed, also the "border-zone" and antero-lateral tract, but the information thus gained is valueless as compared with the embryological facts ascertained by Bechterew and those determined by experimentation."

PAGE 207, No. XLIII.

Case of Excision of Small Goitre.

Supplementary Report, received from Mr. BARKER.

"The patient whose case is referred to was seen not long ago, in excellent health and showing no ill effects from the removal of the goitre."

PAGE 235, No. XLVIII.

Case of Spondylitis Deformans.

Supplementary Report, received from Dr. LEDIARD.

"This patient died from bronchitis about two years after his exhibition. No marked change in his condition was noted."

PAGE 241, No. L.

Case of Nodes on the Forehead from congenital syphilis, in a girl æt. 12½.

Supplementary Report, received from Dr. RADCLIFFE CROCKER.

"This case was some months later admitted into the East London Hospital for Children under my colleague Mr. Robert Parker, with effusion into the knee-joint and periosteal thickening over fibula. She recovered under specific treatment, and has not been heard of since."

PAGE 243, No. LI.

Case of Infantile Hemiplegia with unusual reflex phenomena.

Supplementary Report, received from Dr. FREDERICK TAYLOR.

"I saw the boy, William H., on July 7, 1889, and made the following notes:

"He is now nearly twelve years of age (his birthday being in August), but he is no bigger than a child of five

years. He is sitting in a child's high chair, and he is unable to balance himself on an ordinary chair unless propped up firmly against the back. He cannot stand or walk. His limbs are practically in the same condition as they were when he was shown to the Society; the left arm and both legs are rigid, knee-jerks are exaggerated, and ankle-clonus cannot be obtained. The peculiar reflex, on account of which he was exhibited, is precisely the same. On clapping the hands near him or patting him on the head the left arm starts out at a right angle to the body, and only slowly falls again to his side. Mentally he is very much behind his age, and about on a level with one of four or five years. He is quite childlike in his manner, cannot read, talks imperfectly, cannot tell the time on a watch; asked what a stuffed bird is, calls it a 'dickey;' can imitate tunes in a childish way, and recognises differences of pitch.

"When he was exhibited to the Society there was a strong suspicion of congenital syphilis. This is now confirmed, for his upper central incisors are rounded at the cutting edge, and beginning to be notched, that is, the defective portion is marked out, but not yet broken away. There is as before disseminated choroiditis in both eyes.

"His father, whose age is now thirty-eight (he was stated in the report to be fifty-two by mistake instead of thirty-two), confesses that he had a chancre a long time ago, but he says no sore throat or eruption. Three children, aged respectively ten, eight, and seven years, show no signs of congenital syphilis. Three children born since these have died, two at fourteen months each, of bronchitis. The last, aged one year and eight months, died of fits. The mother says he was 'something like Willie, sat with both his hands clenched.'"

PAGE 247, No. II, Living Specimens.

Case of Pseudo-Hypertrophic Muscular Paralysis in an adult.

Supplementary Report, received from Dr. GREEN.

"I am unable to discover the residence of this patient. Have heard nothing of him since his case was published."

PAGE 249, No. III, Living Specimens.

Case of Diffused Scleroderma.

Supplementary Report, received from Dr. GOODHART.

"She still remains much crippled from the disease, nevertheless the scleroderma is better in many parts. Indeed, it is everywhere better; but, as it was when exhibited, the associated atrophy is so extreme in hands, feet, and over the knees that her progress is impeded by the physical difficulty of movement. Although better the skin was still obviously thickened in many parts when last seen about a year ago. I have heard from her quite recently. The disease has not extended to any fresh parts since her exhibition."

PAGE 252, No. IV, Living Specimen.

Case of Acute Diffused Scleroderma.

Supplementary Report, received from Dr. S. WEST.

"The patient disappeared from observation, but is believed to have been under treatment at another hospital and to have been shown at the Dermatological Society."

PAGE 254, No. V, Living Specimen.

Case of Obstruction of the Superior Vena Cava.

Supplementary Report, received from Dr. FOWLER.

"This patient remained under observation for four years, during which time he enjoyed fairly good health, and was in continuous employment as a labourer. No change was noted in the condition of the veins or in any of the physical signs present when this case was reported. I have not seen the patient since 1887."

PAGE 256, No. VI, Living Specimen.

Case of Lymphatic Disease of Right Arm.

Supplementary Report, received from Mr. R. W. PARKER.

"I have failed to get any further particulars concerning this case."

PAGE 260, No. XI, Living Specimen.

Case of Myxœdema in a male.

Supplementary Report, received from Dr. S. MACKENZIE.

"The further progress of the case is given by Dr. John Harley in vol lxvii, *Medico-Chirurgical Transactions*, p. 201."

PAGE 262, No. XII, Living Specimen.

Case of Sclerema Neonatorum.

Supplementary Report, received from Dr. THOMAS BARLOW.

"Twelve months after, the child was in good health and free from any abnormal skin condition."

PAGE 263, No. XIII, Living Specimens.

Cases of Myxœdema.

Supplementary Report, received from Mr. LUNN.

"CASE 1.—The woman, A. W., was discharged and has not been heard of since.

"CASE 2.—Still in infirmary; no other changes have taken place."

VOL. XVII.

PAGE 1, No. I.

Cases of Peritoneal Abscess in children.

Supplementary Report, received from Dr. GOODHART.

"I have nothing further to report."

PAGE 37, No. VIII.

Case of Unilateral Fracture of Patella treated by suture.

Supplementary Report, received from Mr. TURNER.

"There is nothing further to report about this case. When last seen the man was able to get about very well, but with a stiff knee."

PAGE 49, No. X.

Case of Myxœdema.

Supplementary Report, received from Dr. DREWITT.

"The case of myxœdema shown at the Clinical Society in 1883 is now in the nineteenth year of the disease. During the last six years there has been great increase in the bulk of the patient. The face and trunk are especially enlarged, and there are prominent supraclavicular cushions. The tongue is large enough to interfere seriously with respiration and deglutition. In the mental condition there is but little change. Temper is placid and there are no fits of anger. The eyebrows have disappeared and the hair is thinned. There have been profuse hæmorrhages from the uterus on two occasions. No history of previous myxœdema in family can be obtained. Her father died of delirium tremens. Jaborandi in large doses has had but little effect on the disease. The skin is softened and the patient always temporarily relieved by hot baths."

PAGE 56, No. XII.

Case of Recovery from Pneumothorax without effusion of fluid.

Supplementary Report, received from Dr. SAMUEL WEST.

"The patient was seen only a few months ago and continues well."

PAGE 65, No. XIV.

Case of Subcutaneous Nodules occurring in an adult not the subject of rheumatism.

Supplementary Report, received from Dr. FOWLER.

"This patient left London shortly after being shown at the Society, and I have not seen him since."

PAGE 95, XXI.

Case of spreading Obliterative Arteritis.

Supplementary Report, received from Mr. A. PEARCE GOULD.

"This patient was shown to the Society on October 8th, 1886, and the notes of his condition at that time will be found in vol. xx, p. 252. Since then I have not heard anything of the man."

PAGE 105, No. XXII.

Case of Obliterative Arteritis.

Supplementary Report, received from Dr. HADDEN.

"I saw the patient in the summer of 1888. Her condition was the same as reported in 1884."

PAGE 115, No. XXIV.

Case of Thrombosis of Inferior Vena Cava.

Supplementary Report, received from Mr. MANSELL MOULLIN.

"No further particulars can be obtained."

PAGE 126, No. XXVII.

Case of Multiple Abscesses of the Liver, not pyæmic, in a boy eleven years of age.

Supplementary Report, received from Dr. SAMUEL WEST.

"The case has been lost sight of for some years."

PAGE 143, No. XXX.

Case of Dislocation backwards of first Lumbar Vertebra successfully reduced under ether.

Supplementary Report, received from Mr. DAVIES-COLLEY.

"I saw the patient last on July 31, 1888. He had not done any hard work since he left the hospital, but he was in regular employment as a timekeeper. He could walk well and could bend his back well. There was still some numbness on the outer side of the right leg."

PAGE 159, No. XXXIV.

Three cases of Excision of Rectum for cancer.

Supplementary Report, received from Mr. H. CRIPPS.

"CASE 1.—I have no subsequent history to give.

"CASE 2.—Ditto.

"CASE 3.—Miss D. operated upon by me for rectal cancer, July, 1880. Is now (April, 1889) in perfect health in every respect. There has never been the slightest sign of recurrence. She suffered for the first two years from slight contraction, but for the last seven years this has given her no trouble whatever. She has good control over the anus except when she has diarrhœa, when there is a 'weakness;' but she can hold the motion sufficiently long to get to the closet."

PAGE 217, No. XLVII.

Case of Pulmonary Regurgitation.

Supplementary Report, received from Dr. FOWLER.

"This patient has been under under observation at intervals since her case was reported. No change has been noted in the murmur, and no symptoms of cardiac failure have developed."

PAGE 224, No. I, Living Specimen.

Case of Radical Cure of Femoral Hernia.

Supplementary Report, received from Mr. B. HILL.

"I believe the patient is dead. Some year or two after she left my care I heard that she had entered St. Mary's Hospital for some cause, and there had suddenly developed acute mania and died. I do not know what took her to St. Mary's."

PAGE 226, No. IV, Living Specimen.

Case of Hygroma of right Forearm and Fingers.

Supplementary Report, received from Mr. MORGAN.

"The patient referred to was seen by me to-day (May 11, 1889). She is now a healthy well-grown child of six years. The swellings over the dorsal aspect of the phalanges of the three outer fingers of the right hand have become hard, fibrous, and are attached to the skin, which is thickened over them. There is a similar fibrous mass on the palmar aspect of the first phalanx of the index. The lump on the dorsum of the wrist is hard and attached to the skin, but movable on the subjacent parts. On the inner side of the arm, over the ulna, are three similar hard masses. The skin over the largest and uppermost is punctured, covered with fine hairs, and at its centre is a small patch of nævoid which varies in colour from pale pink to dark purple, and sometimes disappears altogether; some superficial veins on the forearm are prominent and project beneath the skin. There are no swellings in the arm or axilla, but the veins over the right sterno-clavicular articulation are more marked and more evident than on the opposite side, and a swelling similar to those in the forearm is sometimes, but not always, to be felt beneath them. The condition of these nodules suggests the idea that recurrent attacks of inflammation have consolidated them and the surrounding cellular tissue, and that the veins have thus become constricted. The parents refuse permission to remove any of the nodules."

PAGE 227, No. V, Living Specimen.

Case of Acne varioliformis.

upplementary Report, received from Dr. MACKENZIE.

"The patient has been kept under observation and was seen within the last few weeks. She has had several relapses of the disease, each yielding to arsenic. There never has been any evidence of syphilis, and three children have been born since the patient was exhibited. These have also been seen and have presented no evidence of syphilis. The case may be accepted as a genuine and typical example of acne varioliformis."

PAGE 230, No. VII, Living Specimen.

Case of Charcot's Joint-disease.

Supplementary Report, received from Dr. BUZZARD.

"The sequel of the case is not known to me."

PAGE 230, No. IX, Living Specimen.

Case of Perforating Ulcer of Foot following an old injury to the spine.

Supplementary Report, received from Mr. WILLETT.

"This patient has passed out of sight so that I am unable to supplement the previous report."

PAGE 231, No. X, Living Specimen.

Case of Perforating Ulcers of Feet in a case of locomotor ataxia.

Supplementary Report, received from Sir DYCE DUCKWORTH.

"The patient has been lost sight of."

PAGE 232, No. XI, Living Specimen.

Case of Nævus of whole Upper Limb.

Supplementary Report, received from Mr. BARKER.

"Nothing further is known about this case."

PAGE 232, No. XII, Living Specimen.

Case of Paralysis of fourth and fifth Cranial Nerves.

Supplementary Report, received from Dr. F. WILLCOCKS.

"The patient got over the attack recorded in the original paper, and was practically well when last seen. I have not been able to obtain any further information."

PAGE 233, No. XIII, Living Specimen.

Case of Obstruction of Superficial Veins of Thorax (probably aneurysm).

Supplementary Report, received from Dr. SYMON TYLER.

"I have been unable to see the patient for he is out at work harvesting. It is my intention to again exhibit him before the Society."

PAGE 235, No. XV, Living Specimen.

Case of Naso-Pharyngeal Polypus.

Supplementary Report, received from Mr. STONHAM.

"This case is fully reported in the *Lancet*, vol. i, 1888, p. 13. He remains quite well."

PAGE 236, No. XVI, Living Specimen.

Case of Congenital Hypertrophy of Right Lower Limb.

Supplementary Report, received from Mr. R. W. PARKER.

"I have not been able to get any further particulars whatever concerning this case."

PAGE 239, No. XVIII, Living Specimen.

Case of Rupture of left Brachial Plexus.

Supplementary Report, received from Mr. SYMONDS.

"The arm was amputated in the upper third. Though there was no pulsation in the brachial artery this vessel bled freely. The man was relieved of the inconvenience caused by the weight of the arm, and the hyperæsthesia over the shoulder decreased. Later on much of the sensation of the skin covering the stump was restored."

VOL. XVIII.

PAGE 143, No. XII.

Case of Recurrent Hæmatemesis with Urticaria.

Supplementary Report, received from Dr. PRINGLE.

"In reply to a letter of inquiry I have received the following, which I have had no means of supplementing:—'I am still subject to nettlerash, have frequent threatenings, but the bad attacks may be put down at one or two per annum. Those come generally in cold weather (winter) after exposure. Frosty weather, cold dry east winds do not suit me, they cause irritation, if not actual nettlerash. Hunting or any extra fatigue does the same.

"'During a bad attack the swelling of the mouth does occur, but not so much as formerly. There is also sickness, but that I almost invariably stop by injections of morphia, otherwise I have every reason to believe that the bleeding would come on as formerly. It has done so in one or two instances when morphia was not at hand. I cannot give any dates; the last attack was about six weeks ago, bad rash, but very little sickness; morphia was used to prevent it. The only symptom of gout has been a little stiffness in two of my fingers, that I often have, and deafness sometimes, which *may* be gout.

"'I have not been undergoing any treatment beyond using aperient medicines, as I fancy want of action of the liver and constipation have a great deal to do with my illnesses.'"

PAGE 180, No. XIX.

Case of Nephrolithotomy.

Supplementary Report, received from Mr. CHARLES SYMONDS.

"Joseph Culley writes, April 29, 1889, that he still continues his work but at times feels weakness in his side, and a 'tightness in the inside' which prevents his stooping, and that if he strains himself he passes very high-coloured urine, almost blood. The specimen of urine sent up contained blood, mucus, and albumen."

PAGE 185, No. XX.

Case of Nephrolithotomy.

Supplementary Report, received from Mr. MORRIS.

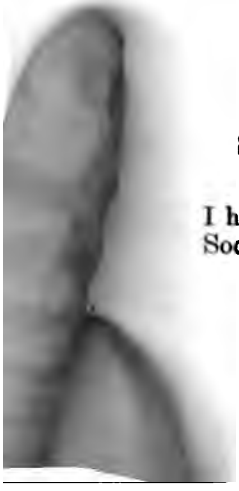
"Was quite well in January, 1889, and had remained so ever since the operation. In a letter written by the patient, still more recently, asking me to take surgical charge of his brother's case, he says, 'I am pleased to say I keep *quite well* myself.'"

PAGE 189, No. XXI.

Case of Nephrolithotomy.

Supplementary Report, received from Dr. DICKINSON.

"The patient in question has repeatedly visited the hospital since for the purpose of showing himself; the last time was about Christmas, 1888. I did not then see him myself but I was told that he was in perfect health, as I believe he has been ever since the operation."



PAGE 210, No. XXV.

Cases of Spina Bifida.

Supplementary Report, received from Mr. MAYO ROBSON.

"The Cases 1 and 2 are given fully in my paper. Case 4 I have been unable to hear of since. Case 3, shown to the Society, had double extreme talipes equino-varus at the time

of operation, and very little vitality in the feet and legs, which were cold and livid. Her general health is still very good. A year after the operation, after wearing a boot which chafed the shin, a trophic ulcer formed over the dorsum of the right foot and could not be made to heal. Pirogoff's amputation was performed and the wound healed by first intention, leaving a stump much more useful than the previous condition. No bone has formed over the scar of the spina bifida, where an impulse is felt when she coughs. There is no sign of the parts yielding to internal pressure; she has no pain over it and wears no shield or other support."

PAGE 221, No. XXVI.

Case of Choreiform Movement, probably of congenital origin.

Supplementary Report, received from Dr. HADDEN.

"I have no further information about the patient."

PAGE 228, No. XXVIII.

Three cases of Bullet Wound.

Supplementary Report, received from Mr. BARWELL.

"CASE 1.—Death and post-mortem reported in original paper.

"CASE 2.—The man was quite well at the time of the report, and he has not been seen since his committal from the police office.

"CASE 3.—The man returned ten months after his discharge from Charing Cross Hospital. The wounds were all quite healed. He was insane and therefore removed to the infirmary. The insanity was evidently a relapse of the same mental condition as had originally led to the attempted suicide."

PAGE 254, No. XXXIII.

Case of Inguinal Aneurysm.

Supplementary Report, received from Mr. WALSHAM.

"The patient has not been seen or heard of by me since the report was published."

PAGE 268, No. XXXIV.

Case of Obstruction of Arteries and Veins.

Supplementary Report, received from Dr. HADDEN.

"I have no information about the patient."

PAGE 285, No. XXXVII.

Case of removal of Calculus from vermiform appendix for recurrent typhlitis.

Supplementary Report, received from Mr. SYMONDS.

"I have failed to trace the patient."

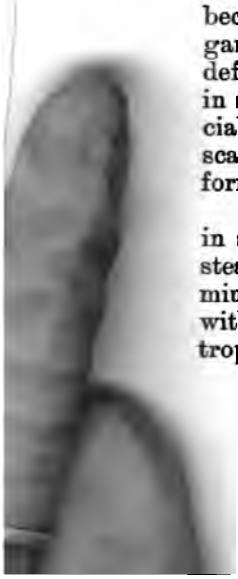
PAGE 300, No. XL.

Two cases of Raynaud's Disease.

Supplementary Report, received from Dr. FOX.

"Mrs. S. has continued to suffer much in the same way as described in vol. xviii, though to a decidedly less extent. She clothes very warmly, wraps her hands up, does not do household work, and rarely goes out of doors. There are no fresh symptoms of any importance. The state of the hands is as follows:—The hands and feet are cold, and the phalanges have a livid tinge, especially round the nails. There is no scleroderma. The distal phalanges have more or less become destroyed chiefly by repeated attacks of superficial gangrene at the ends beneath the nails, and the latter, much deformed, have been carried back towards the first point as in some cases of anæsthetic leprosy. On the left hand especially but little of the distal phalanges are left. The feet are scarred around the ankles, but the phalanges are not deformed.

"Joseph A. never had any further attacks approaching in severity those described in the *Transactions*. His health steadily deteriorated, and he died comatose in the Westminster Hospital, under Dr. Donkin's care, on April 8, 1888, with diabetes and albuminuria, general anasarca, hypertrophied heart, enlarged liver, emphysematous lungs, chronic



bronchitis and pleuritis, and general atheroma of the medium and larger-sized arteries, especially of the aorta, carotids, iliacs, femorals, and brachials, and of the vessels of the base of the brain. There were only a few spots in the other vessels. Towards the end the urine had a specific gravity of 1030, and he passed twenty to thirty ounces containing eight to thirty grains of glucose to the ounce."

PAGE 307, No. XLI.

Three cases of Raynaud's Disease.

Supplementary Report, received from Dr. BARLOW.

(For early history of these cases *vide* vol. xvi, p. 179, No. xxxvii.)

"CASE 1.—I have watched this case through several subsequent attacks during cold seasons of the year. The only fresh clinical feature to add is, that I have in some of the paroxysms observed a moniliform appearance in some of the dorsal veins of the hands. A series of small dark nodosities were seen along the line of the veins with narrow, almost colourless, tracts between them. Presently the dark nodosities were observed to alter their situation along the line of the veins and likewise the colourless tracts. It was obvious that there was a wave of contraction of the walls of these veins causing narrowing of the lumen in certain parts and temporary varicosity in others. The case responded to galvanism applied as directed in the former report.

"CASE 2.—When last heard of was still liable to the attacks of local cyanosis of hands and feet, some of which were accompanied by hæmoglobinuria, but the paroxysms were not severe.

"CASE 3.—The case did well until the winter of 1886–87. He was taught how to galvanise the feet himself and his wife was taught how to shampoo them. As long as these two measures were persevered in the man continued able to do his work without interruption and he was free from discomfort, although his feet did not become really well nourished. In the spring of 1887 he and his wife had both become careless in working at the feet, and by the beginning of May, 1887, the toes of both feet had become very blue and there was imminent gangrene of these parts on the left side. The left foot, in spite

of all treatment, became gradually gangrenous nearly up to the ankle, and at length it was deemed advisable that amputation should be performed. There was 'moist' gangrene and much exhaustion, and Mr. Beck thought it wise to amputate in the middle third of the thigh. The patient made a good recovery and there has up to now (July, 1889) been no recurrence of vascular trouble. The stump was carefully examined in respect to nerves, arteries, and vessels. The nerves were healthy; there was no indication whatever of peripheral neuritis. The arteries were entirely free from sign of calcification or atheroma in the ordinary sense. For a short distance above the gangrene there was thrombus in the arteries and there was remarkable contortion and infolding of the elastic lamina to be seen in some sections. It seems possible that some of this may have been consequent upon shrinkage of the thrombus. There was undoubtedly thickening of outer and middle coats, but probably some of this was recent. The walls of the veins showed thickening of their walls as much as if not more than the arteries."

PAGE 313, No. XLII.

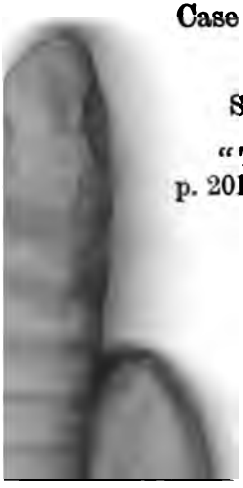
Case of Papilloma of Bladder successfully removed by operation.

Supplementary Report, received from Mr. ANDERSON.

"The sequel of this case is recorded in vol. xxii, p. 278."

PAGE 325, No. III, Living Specimen.

Case of Hypertrophy of subcutaneous tissues of face, &c.



Supplementary Report, received from Mr. BALLANCE.

"The further report of this case is published in vol. xxi, p. 201, under the title of 'A Case of Acromegaly.'"

PAGE 329, No. VI, Living Specimen.

Case of Ununited Fracture of Right Olecranon: wired antiseptically.

Supplementary Report, received from Mr. RUSHTON PARKER.

"Subsequent to the patient's first exhibition before the Society, little elastic collections formed over the twist of wire, thought to be embedded in the groove between the now united fragments. These were frequently incised, with issue of serum sometimes mixed with pus, always quickly healing again. Eventually on probing the wire could be felt, and later a point showed in the incision.

"In January, 1886, a free incision was made, and the protruding fragments fished up and broken off where issuing from the bone. The whole thing quickly healed, the greater part of the wire remaining in the bone.

"Extension of elbow continued imperfect up to May, 1886. At a visit of the patient in September, 1886, extension was found perfect, and has so continued.

"He called, at my request, to see me on April 5, 1889, for the purpose of this Supplementary Report, in all respects well. Being in London on the 12th of the month, he was again exhibited to the Society."

PAGE 330, No. VIII, Living Specimen.

Case. Successful Thyrotomy for Papilloma with preservation of voice.

Supplementary Report, received from Mr. R. W. PARKER.

"This child was brought to the hospital in June, 1889, for examination. She is in excellent health. There is and has been no sign of recurrence. The voice is hoarse; the hoarseness varies greatly, and appears to be influenced by changes of weather, especially from dry to moist, cold weather. Her voice is stronger now than for many months before the operation, and besides there is none of the dyspnœa which was previously so marked and so distressing."

VOL. XIX.

PAGE 45, No. VIII.

Two cases of Ligature of the external Iliac Artery.

Supplementary Report, received from Mr. RIVINGTON.

"The patient has not been seen for some time."

PAGE 66, No. XII.

Case of Gastrostomy in a boy aged four years.

Supplementary Report, received from Mr. MORGAN.

"The boy, Ernest Mathews, to whom the report alluded to refers, was seen by me to-day, April 17, 1889. It is a little more than four years since the caustic was swallowed, and a little less since the operation was performed. He is looking stout, and is well grown, and has a good colour and generally healthy aspect. His weight is, under the same conditions of clothing, 3 st. 1½ lbs., an increase of 1 st. 5 lbs. since the date when he was shown to the Society. He has worn continuously a tube of india rubber, which is secured outside the mouth, and passes down the œsophagus, and is again secured on the surface of the abdomen, where it passes through the opening into the stomach. This has contracted to a hole only large enough to allow the passage of the tube, and food never passes out from it. The tube is maintained as a guide to a graduated bougie, which at its largest is the size of a No. 20 catheter, and which has been passed regularly once a week. If the interval is longer some difficulty is found in passing the bougie. The 'guide' has once broken, and the fistula required to be dilated with tents before another could be passed through the same course, and its end in the stomach was not secured without great difficulty. Until recently the boy refused any but soft food or finely minced meat, but he now cuts up his meat, and eats heartily, and swallows without difficulty. In the course of time I hope to dispense with the guide and to allow him to pass the bougie for himself."

PAGE 88, No. XV.

Case of Suppuration around the Vermiform Appendix treated by abdominal incision.

Supplementary Report, received from Mr. GODLEE.

"When last heard of (which is, I think, within a year from the present time) the patient was well."

PAGE 137, No. XXV.

Case of Traumatic Inguinal Aneurism.

Supplementary Report, received from Mr. MANSELL MOULLIN.

"I am quite unable to ascertain anything further about this patient."

PAGE 159, No. XXIX.

Case of Hernia Cerebri successfully treated by closing the opening in the skull with a silver plate.

Supplementary Report, received from Dr. RODERICK MACLAREN.

"About the middle of 1886 this patient was admitted to the Western Infirmary, Glasgow, under the care of Professor Gairdner, and in his absence of Dr. Joseph Coats. He had then considerable paralysis with rigidity of the right arm and hand, but very little of the right leg and none of the face. He talked slowly, and intelligence was defective. During his residence in the hospital he had several fits which began with twitching of the right cheek, then of the right arm and leg. He then lost consciousness, and the convulsions became general.

"In February, 1887, he was, at Professor Gairdner's* request, admitted to the Hospital for the Paralysed and Epileptic, Queen Square, London, under Mr. Victor Horsley, and seen in consultation by Dr. Hughlings Jackson. The conclusion arrived at was an opinion unfavorable to operation. On April 28, 1887, the patient was again admitted to the

* In this connection I would specially note Professor Gairdner's extreme interest in the case, his great kindness to the man, and his very great courtesy to myself.

Cumberland Infirmary, where he remained till June 1st. During that time his arm slightly improved in power, and he had only one fit.

"April 26, 1889.—I have recently received the following report of him. That he has lived in Skye since the middle of 1887. That his general health is good, that he cannot work, that his mental condition is variable and doubtful, that his right arm remains partially paralysed and useless, and that he has fits at intervals varying from two to eight weeks."

PAGE 205, No. XXXIV.

Case of Popliteal Aneurysm in a patient the subject of locomotor ataxia.

Supplementary Report, received from Dr. LONGHURST.

"After a personal examination on April 27, 1889: The cure of the aneurysm has remained permanent, the solidification and contraction of the tumour being so complete that its exact site in the popliteal space cannot now be determined. The collateral circulation has been fully established so that the limb feels always warmer than the sound one, and the toe-nails are brighter in colour. The varicose condition of the veins has not increased, being equal in both limbs, the muscular condition and nerve sensibility being also equal and good. The ataxic state has somewhat increased, as regards the lower extremities, patient being unable to stand or to walk, but can move them freely both in flexion and extension from the hip-joint. Occasional lightning pains in both legs, worse in the right than in the left and in cold and stormy than in warm weather. No marked crises of any kind; a bowel torpor, requiring a little saline and occasionally an enema. Has control of both sphincters. No sexual desire. Intellect and memory good."

PAGE 304, No. III, Living Specimen.

Case of Acute Obliterative Arteritis.

Supplementary Report, received from Mr. WALSHAM.

"I have written to Dr. Wilcox, who sent me this case. He replies that the man is at work in the town but has not been seen very recently."

PAGE 306, No. V, Living Specimen.

Case of Myxœdema.

Supplementary Report, received from Dr. SAVILL.

"The patient, Mary Ann W., has been lost sight of."

PAGE 312, No. VIII, Living Specimen.

Case of removal of part of Lower Jaw and the whole Tongue for epithelioma.

Supplementary Report, received from Mr. STONHAM.

"I saw this patient a week ago (May 13, 1889) and he is perfectly well, and has remained so since I showed him at the meeting of the Society."

PAGE 313, No. IX, Living Specimen.

Case of Symmetrical Guttate Scleroderma.

Supplementary Report, received from Dr. PRINGLE.

"The patient was last seen in June, 1888. She married in 1887 and had one healthy child. Although the thyroid was still enlarged, and the eyes slightly prominent, the subjective symptoms of Graves's disease were not complained of. The heart-sounds were regular, and its action not accelerated.

"The spots and patches of scleroderma were no longer recognisable as such, and the great majority had totally disappeared. On the seat of the largest lesion on the back of the neck the skin was glistening and atrophic. The dilated capillaries previously present had disappeared."

PAGE 315, No. X, Living Specimen.

Case of Myositis Ossificans.

Supplementary Report, received from Mr. JONATHAN HUTCHINSON.

"There is nothing further to add to the report of this case."

PAGE 317, No. XII, Living Specimen.

Two cases of associated Paralysis of Tongue, Soft Palate, and Vocal Cords.

Supplementary Report, received from Dr. MACKENZIE.

"CASE 1.—Has been under observation since date of note, and was exhibited again March 22, 1889. There has occurred no alteration in the paralysis of tongue, soft palate, and vocal cord, but some extension of paralysis amongst the small muscles of the neck and back, and other symptoms of a syphilitic nature having no bearing on the lesion.

"CASE 2.—Not seen subsequently. He returned to France, and shortly afterwards died, but nothing more can be ascertained.

"These cases were exhibited to show on clinical grounds that the soft palate (levator palati) is innervated by the spinal accessory nerve and not by the facial as universally taught. Between the occasions when Case 1 was exhibited the important experimental investigations by Beevor and Horsley (*Proceedings of the Royal Society*, vol. xliv, p. 269) have established the fact on other and more exact evidence that the levator palati is supplied entirely by the accessory nerve. The same fact has been demonstrated in the dog by Dr. Felix Semon and Mr. Victor Horsley."

VOL. XX.

PAGE 1, No. I.

Case of Congenital Malformation of Heart.

Supplementary Report, received from Dr. TURNER.

"I have this day (May 23, 1889) examined the boy whose case was reported by me in 1886. The physical signs of cardiac lesion remain the same. The boy goes about and attends school, though not very regularly, and only occasionally in cold weather. The mother states that his breath is shorter after exertion, as in going upstairs, and that he is less active;

also that the cyanosis, which has always been greater in winter, has not diminished so much this year."

PAGE 24, No. V.

Case of Removal of the Scapula for osteo-sarcoma.

Supplementary Report, received from Mr. SYMONDS.

"I am sorry to say the new address of this man cannot be found."

PAGE 44, No. IX.

Case of Partial Extirpation of the Larynx for epithelioma of the left ventricle of Morgagni.

Supplementary Report, received from Dr. FELIX SEMON.

"The patient, ever since the case was communicated (November 12, 1886) has uninterruptedly enjoyed good health up to the present day (May 7, 1889), and exactly three years having now passed since the operation was performed (May 3, 1886) he may, according to the recognised views on this question, at present be looked upon as completely cured. His voice has become even stronger than it was at the time when the supplementary note was added (May 22, 1887) to the description and is at present only very slightly hoarse, so that nobody who now hears him speak would believe that so strong and comparatively clear a voice could emanate from a larynx in which only one vocal cord is left. He continues to fulfil the duties of a police magistrate. There is only one point which deserves to be specially mentioned. Whilst the appearance of the larynx itself to-day is exactly the same as it was when the case was brought forward two and a half years ago, and whilst there has never been the slightest untoward symptom in the larynx itself, I was much concerned when in the autumn of 1887, during one of the laryngoscopic examinations which I have periodically made since the operation, I discovered in the cicatrix of the incision, made for the purpose of the preliminary tracheotomy, *i. e.* on its *inner* aspect, a small, whitish-grey, conical outgrowth, with round base and sharp point, about the size and appearance of the tip of a lead pencil. A small but bright zone of congestion ran round the base of this new formation, which looked unlike any other benign or

malignant growth I have previously or since seen in the larynx or trachea. Naturally, I was at first much afraid of a recurrence of the malignant disease in the tracheotomy wound. The growth, however, remained perfectly stationary. In December, 1887, I had occasion to go to Berlin and invited the patient to accompany me in order that he might be again examined by Dr. Hahn, who had performed the operation. The patient consented and was seen on December 17 by Dr. Hahn and Professor B. Fränkel in consultation with me at Berlin. Neither of the gentlemen had ever seen a tumour in the trachea exactly like this, but it was considered most probable that the outgrowth was of the nature of a tracheal ecchondrosis, such as has been described and figured by Virchow in his work on 'Tumours' (vol. i, p. 442), but, so far as I know, never yet been laryngoscopically observed. It was, of course, decided not to interfere at once but merely to watch the further development. This course was justified by events, for having quite recently examined the patient I can state that the outgrowth remains exactly as it was when first discovered, without giving rise to the least inconvenience.

"I have considered it my duty to enter at some length upon this feature of the case because it shows that one ought not, if one discovers an obscure new formation in a case like this, at once rush to the conclusion that this new formation must needs represent a recurrence of the primary malignant growth."

PAGE 63, No. XI.

Six cases of Tumour of the Bladder removed during the past twelve months, with a brief sketch of their histories and results.

Supplementary Report, received from Sir HENRY THOMPSON.

"CASE 1.—Is already reported to have lived nine months after the operation, dying at seventy-four of return of the malady.

"CASE 2.—Is still living without return.

"CASE 3 was a case of malignant disease in which death took place a few months afterwards.

"CASE 4.—The growth has never returned.

"Case 5.—Tumour reappeared, and he died nine months afterwards.

"Case 6.—In 1887, the year following the operation symptoms reappeared, and Mr. O. C. Maurice, of Reading, who assisted me on the first occasion, opened the bladder above the pubes in the month of August.

"May, 1888.—The patient died exhausted by his disease."

Page 111, No. XXI.

Case of successful Nephro-lithotomy.

Supplementary Report, received from Mr. Morris.

"The patient has remained absolutely well ever since the operation."

Page 143, No. XXVIII.

Case of Epilepsy following an injury to the leg.

Supplementary Report, received from Dr. Hadden.

"The man was readmitted into St. Thomas's Hospital in 1887. He had been having four or five fits daily for a fortnight. The sciatic nerve was again stretched, a force equal to thirty pounds being used in each direction for about five minutes. He had a fit three weeks after the operation. Nothing has been heard of him since."

Page 153, No. XXX.

Cases of Pneumothorax in persons apparently healthy.

Supplementary Report, received from Dr. de Havilland Hall.

"F. R. P. has continued perfectly well up to the present time, and there is no symptoms of any chest trouble.

"Mr. B. Rix writes to me *re* J. W.: "He has not been ill since. He has neither cough nor shortness of breath, and he works fourteen hours a day, and the only ill-effect his wife notices is that she thinks he is more tired in the evening than he used to be."

PAGE 176, No. XXXIV.

Case. A form of Glandular Swelling that is cured by arsenic.

Supplementary Report, received from Mr. TREVES.

"Dr. Wills—the medical man under whose care the patient was—reports that she is well, and has had no further glandular swellings."

PAGE 190, No. XXXVI.

Case of Psoriasis with Associated Rheumatism which passed into general Pityriasis Rubra.

Supplementary Report, received from Sir DYCE DUCKWORTH.

"Patient lost sight of."

PAGE 226, No. XLIII.

Case of Spasmodic Torticollis probably caused by cerebral lesion.

Supplementary Report, received from Dr. POORE.

"The last notes I have of this patient are the following:

"June 4, 1887.—'Much better. Has been playing cricket and doing his work at the Bank since January 1.'

"November 16, 1887.—Head perfectly steady except when, he says, 'he raises his arms to blow his nose.'

"January 31, 1888.—Head perfectly steady."

PAGE 240, No. XLVI.

Case of Endemic Hæmaturia due to the presence of the Distoma hæmatobium.

Supplementary Report, received from Dr. HANDFORD.

"The patient now resides near London, and I have only seen him once since the last report in my paper. He, however, sends me specimens of his urine every three to six months with an account of his health. He has been working hard at college for two years, and playing football regularly,

and is generally in robust health. When he gets a little overworked he becomes anxious about 'the parasites,' and imagines he can feel them moving in the region of the kidneys. He has no pain or undue frequency of micturition, but still passes a few drops of blood at the end of micturition most days, as described in the report. Ova have been found in the urine on every occasion, the last examination being a few months ago. He has taken no medicine till about two months ago when he took half-drachm doses of liquid extract of male fern every morning. After three or four doses the skin became so yellow as to attract general attention. On this account and not because of any feeling of illness he was compelled to give it up. After an interval he tried it again with a like result, but on each occasion he passed no blood in the urine for a fortnight afterwards, a longer period than he has ever gone before. As he lives at a distance I have not been able to ascertain whether the yellowness was due to jaundice. He is now to take the male fern in doses of fifteen minims and the treatment is still in progress. With regard to the question of the reproduction of the parasites within the body without the intervention of an intermediate host, if this does not occur the adult parasites must now have reached the age of at least four years."

PAGE 254, No. III, Living Specimen.

Case of removal of Right Patella for sarcoma.

Supplementary Report, received from Mr. PARKER.

"This patient remained well and free from recurrence until the commencement of the present year (1889). She then presented herself at the hospital on account of a small nodule of recurrent growth situated in the middle of the linear cicatrix of the old incision. This I removed very freely, and applied the actual cautery to the base of attachment. She made a good recovery, and at this date (July, 1889) remains quite well."

PAGE 258, No. X, Living Specimen.

Case of Locomotor Ataxy with peculiar deformity of the feet.

Supplementary Report, received from Mr. LUNN.

"This patient has since died. The feet may be seen in St. Thomas's Hospital Museum."

PAGE 259, No. XI, Living Specimen.

Case of Cyanosis of Feet, Raynaud's disease.

Supplementary Report, received from Mr. LUNN.

"The patient is still in the Infirmary, but he has since developed a tumour in Scarpa's triangle on the left side, which I have removed. The tumour proved to be fibro-myxoma."

PAGE 260, No. XIII, Living Specimen.

Case of removal of both Upper Jaws for squamous epithelioma.

Supplementary Report, received from Mr. GODLEE.

"The patient has had several recurrences. In one of them it was necessary to remove the right eye, but his general health remained good when I last saw him, and he was continuing his work. This, I think, was in the early part of the year, and, as far as I know, he is well at present."

VOL. XXI.

PAGE 1, No. 1.

Cases of Pemphigus; with unusual affection of cicatrices: arsenical pigmentation.

Supplementary Report, received from Dr. Handford.

"The girl suffering from pemphigus is now about sixteen, rather short and small for her age, but stout and with mus-

cular limbs, and rather full mammary development. Menstruation commenced three or four months ago. She has been in good health for the past two years, and has had no return of the pemphigus. The milium on the hands and feet is quite gone, but the skin on the palmar surfaces of the hands remains tense, smooth, shining, and glossy, though pealing a little in places. The hands perspire too much, and the palms are always moist. She has taken no arsenic now for about two years, but the pigmentation has not gone though the skin is not so dark as it was. Besides being generally lighter the skin has become mottled, as is shown at the upper part of the discoloured area just beneath the left breast in Plate II, vol. xxi. This mottled appearance extends now over a large part of the abdomen and the greater part of the back. It bears a marked superficial resemblance to leucodermia, but the light areas are not so light as in the latter condition, and in the dark parts of the skin the pigment is uniformly diffused and not accumulated around the margins. It appears to be the process of gradual, though unequal, disappearance of the pigment. The other three cases I have not seen again, but I have met with one or two others, where I have been enabled to detect from the appearance of the skin that they had been taking arsenic for some time."

PAGE 37, No. VII.

Case of Tubercular Peritonitis treated by laparotomy and washing.

Supplementary Report, received from Mr. LAWFORD KNAGGS.

"I have had opportunities of keeping the girl E. N. under occasional observation almost up to date. The last note in my paper was dated October 10, 1887, weight 7 st. 10 lbs. On August 28, 1888, her weight was 8 st. 4 lbs. There was no ascites. The catamenia had reappeared in October; she was regular, but the discharge was slight and only lasted two days. The yellow vaginal discharge had also disappeared. The morning expectoration had disappeared till fourteen days ago when she caught caught cold and developed a slight cough. The chest symptoms have improved; prolonged expiration cannot now be detected at the right apex. In appearance she is a fat, buxom, rosy-cheeked girl. On November 29, 1888, weight

8 st. 10 lbs. The catamenia are quite natural and last nearly a week. In April, 1889, I saw her in the street when she appeared to be in robust health. She had grown and filled out a great deal since the operation.

"The woman, æt. 43, that I referred to (published in *Lancet*, October 16, 1886) also continues in excellent health. I saw her in October, 1888, when she had been a little time down by some short illness, in which I was unable to attend to her in consequence of absence from home. I met her husband in April, 1889, and learnt from him that she was very well except for some inflammatory condition that had affected one eye on two or three occasions recently."

PAGE 43, No. VIII.

Case of Tubercular Peritonitis cured by washing out the abdominal cavity with a 1 per-cent. solution of carbolic acid.

Supplementary Report, received from Mr. MILNES CLARKE.

"The patient in question came to my house to-day (June 18, 1889). She is in perfect health. The lungs, heart, and abdomen were all healthy. Catamenia regular; four weeks' interval; duration of flow three days. Since the operation she has worked regularly in a silk mill. She is short, but otherwise a well-developed girl, and now aged fifteen."

PAGE 46, No. IX.

Case of Enormous Prostate: stricture requiring urethrotomy. Urine passed for years by catheter, then suprapubic operation, and now by suprapubic tube, rendering catheterism unnecessary.

Supplementary Report, received from Sir HENRY THOMPSON.

"This patient is still enjoying as good health as ever. The same apparatus is used for conveying his urine to the urinal; all passing through the suprapubic wound through a bent silver tube direct to the apparatus. He can walk three or four miles, and travels with comfort. Previous to the operation, June 18, 1886, he was compelled to pass all

his urine by catheter rarely less than twenty times in the twenty-four hours. Since that time he has never required to pass it once for any purpose."

PAGE 52, No. X.

Case. On Suprapubic Prostatectomy, with three cases in which the operation was successfully performed for chronic prostatic hypertrophy.

Supplementary Report, received from Mr. McGILL.

"CASE 1.—Continued well till middle of 1888, when symptoms recommenced. In Nov. the suprapubic wound reopened during an attack of retention. On December 17 a phosphatic concretion was removed through the suprapubic wound from the bladder. The prostate had no intravesical enlargement. He made a speedy recovery, and is now quite well.

"CASE 2.—I hear from Mr. Hebblethwaite, of Barley-in-Wharfedale, that T. T. is now a 'hale and hearty man.' He has no difficulty in passing his urine unless he drinks to excess. At Christmas, 1888, he had an attack of retention due to a drinking bout, and since then he has had several like attacks. He is easily relieved by the passage of a catheter.

"CASE 3.—Is now in very good health. He has not required a catheter since the operation. Till four months ago micturition was normal and urine clear. Since then some turbidity of urine, and increased frequency of micturition."

PAGE 58, No. XI.

Case of Tumour (Myoma) of the female bladder removed by the galvano-cautery through a dilated urethra combined with suprapubic incision: illustrating also the value of the electric light for purposes of exploration of the bladder.

Supplementary Report, received from Mr. R. W. PARKER.

"This patient remains quite well. I have seen her several times since her discharge from the hospital, and have recently had a letter in which it is stated that the bladder troubles have entirely disappeared."

PAGE 67, No. XIII.

Case of Acute Enlargement of the Thyroid.

Supplementary Report, received from Dr. BARLOW.

"I am informed that the child is quite well."

PAGE 176, No. XXXVI.

Case of Dry Mouth.

Supplementary Report, received from Dr. HADDON.

"I have nothing further to report about this patient."

PAGE 180, No. XXXVII.

Case of Dry Mouth.

Supplementary Report, received from Mr. HUTCHINSON.

"The patient in this case remains at the present date (May 11, 1889) much in the same state that she was when the first report was written. The tincture of jaborandi in half drachm and drachm doses has been several times tried and with the same effect on all occasions, that it makes her perspire and feel very weak and does not moisten the mouth. A report of this case up to that date will be found, together with the record of a similar one, in the Society's *Transactions* for the current year. A third case has recently been under my observation, the facts of which were very similar to those of the preceding."

PAGE 196, No. XLI.

Case of so-called Acromegaly.

Supplementary Report, received from Mr. GODLEE.

"I have nothing to add except that I heard from the patient under date May 8, 1889, from abroad, complaining of increased cough, almost amounting to asthma and shortness of breath. No further increase in size of the thyroid. There is the same complaint of constant heat, and she thinks she has gained flesh."

PAGE 201, No. XLII.

Case of Acromegaly.

Supplementary Report, received from Dr. B. HADDEN.

"I have recently heard that the condition of the patient is unchanged."

PAGE 224, No. XLVI.

Case of Tumour of the Right Ovary in a child aged seven years associated with precocious puberty: ovariotomy: cure.

Supplementary Report, received from Mr. R. CLEMENT LUCAS.

"May 7th, 1889.—This patient was seen and examined within the last few weeks. She is in complete health, and there is no indication of any return of the tumour. The cicatrix is quite firm. The evidence of forced puberty, which was so marked a feature in her case, has disappeared. The breasts are now quite flat as in an ordinary child of her age, and no menstrual flow has occurred since she left the hospital. The hair remains on the pubes, but has not increased in quantity, and the general rotundity of form has been lost, whilst she has grown considerably in height."

PAGE 268, No. I.

Cases of Hereditary Ataxia (a family of five).

Supplementary Report, received from Dr. GOODHART.

"I have no further report to make at present. The cases have been under notice so recently that it hardly seems worth while to hunt them up again until further time has elapsed."

PAGE 227, No. II, Living Specimen.

Case of Synovial Cyst in connection with right shoulder-joint.

Supplementary Report, received from Mr. MAKINS.

"After full inquiry I cannot find any trace of this patient."

PAGE 285, No. X, Living Specimen.

Case of Traumatic Meningocele.

Supplementary Report, received from Mr. SILCOCK.

"No material alteration in the condition of the patient when last seen a few months ago."

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